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ABSTRACT

This collection contains the texts of four draft papers and four responses that were presented at a symposium on defining literacy. The following papers are included: "Definitions of Literacy" (Richard L. Venezky); "Definitions of Literacy: Responses" (Reynaldo F. Macias); "Literacy for What Purpose?" (Larry Mikulecky); "Literacy for What Purpose?: Response" (Arlene Fingeret); "Measuring Adult Literacy" (Irwin S. Kirsch); "Measuring Adult Literacy: Response" (Thomas G. Sticht); "Policy Implications of Literacy Definitions" (Jeanne S. Chall); and "Policy Implications of Literacy Definitions: Response" (Carl F. Kaestle). The following are among the topics discussed in the individual papers: functional literacy and its domain of reference, the skill requirements of literacy, criteria for determining level of literacy, literacy and nonnative speakers, literacy misconceptions, links between social contexts and literacy, selection of contexts and approaches for literacy assessment, the competency-based and profiles approaches to literacy assessment, reasons and procedures for measuring literacy, and the things that are learned at the six levels of literacy education. (MN)

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Towards Defining Literacy

Symposium Schedule

September 28, 1987
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Draft Papers

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DEFINITIONS OF LITERACY

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A position paper prepared for the Symposium "Towards Defining Literacy", University of Pennsylvania, September 28, 1987. Do not quote without permission.

DEFINITIONS OF LITERACY

Defining terms is properly the domain of the lexicographer, that creature whom Samuel Johnson called "a harmless drudge" (Johnson, 1755) and whom Ambrose Bierce, with far less charity, described as

> a pestilent fellow who, under the pretense of recording some particular stage in the development of a language, does what he can to arrest its growth, stiffen its flexibility and mechanize its methods.
>
> (Bierce, 1906/1958)

Our task here is not mere definition, but navigation among aspirational, psychological, educational, and political intentions of the term *literacy*. This word, unlike such lexical entries as *sugar*, *birch*, and *jump*, has no neutral, precise definition. It is one of that class of auto-positive terms, like *liberty*, *justice*, and *happiness*, which we assume contain simple, primal qualities--necessary and desirable attributes of our culture--but which under scrutiny become vastly more complex and often elusive, yielding to no simple characterization or definition. While a few (e.g., Olson, 1975) have questioned the desirability of universal literacy, most have accepted without debate its desirability and have focused on methods by which it could be endowed on entire populations.

My goal is to open to critical examination the various contemporary meanings offered for *literacy* and to outline a set of definitions, established according to the needs of both pedagogy and national policy. This is not a survey of *literacy speak*, nor an assessment of the practicality or desirability of particular literacy goals, but a focused analysis of central terms and their usage. My method here is primarily that of step-wise refinement, aided by the pragmatic method as practiced by William James, that is, of "trying to interpret each notion by tracing its respective practical consequences" (James, 1907/1955, p.42). Historical material will be added for seasoning and decoration, but the primary emphasis will be upon the here and now.

Literate/Illiterate and Literacy/Illiteracy

The most basic terms to attend to are the adjectives *literate/illiterate* and the nouns derived from them: *literacy/illiteracy*. *Literate/illiterate* derived from the Latin term *literatus*, which for Cicero meant a learned person. In the Middle Ages a *literatus* was one who could read Latin. The exclusion of writing from the more common definitions of *literatus* resulted from the difficulty of mastering the processes required of parchment and quills. On this general issue Furet and Ozouf (1982, p.76) point out "We are inclined to forget, today, that for a long time writing was really a technical exercise involving instruments, muscular gymnastics and a knack." After 1300 *literatus* came to mean *minimal* ability to read Latin, mainly because of the breakdown of learning that occurred during the Middle Ages (Clanchy, 1979). With the spread of vernacular languages, particularly after the

Reformation, a literate person came to mean one who could read and write in one's native language. Although the term *literacy* does not appear in the English lexicon until near the end of the 19th c., the modern concepts of *literate* and *illiterate* date from the last half of the 16th century. Remnants of the classical definition survived, nevertheless, at least to the end of the 18th century. Lord Chesterfield, for example, wrote in 1792 that an illiterate was one "ignorant of Greek and Latin" (cited in the Oxford English Dictionary, s.v. 'illiterate'). When *literate* or *literacy* are employed as references to high abilities, modifiers like *advanced* or *high* are usually inserted. Thus Lester Asheim, in a recent essay prepared for The Center for the Book at the Library of Congress, refers to the *highly literate* to identify those who read Faulkner and Wittgenstein.

> One can be literate by official definition, and still not be able to ferret out the meaning of many forms of prose presentation. The term 'functional illiteracy' takes cognizance of that at a fairly low level, but there are differences in the ability to interpret that can occur even among those who are highly literate as well.
>
> (Ansheim, 1987, pp.14f.)

This is typical of modern usage, in that it recognizes that *literate*, shorn of all qualifiers and left to solitary exposure, connotes a lower level of some quality, rather than the more advanced or even average levels. Ansheim points out that, furthermore, literacy is not a uniform quality, even at its high levels, but one which is "tied to a way of thinking, an acceptance of conventions of the form, and a mind set (*ibid*, p.15)[1].

As a first step in defining literacy, therefore, I will qualify the range of abilities referred to as minimal or near minimal for some goal, as opposed to advanced, as was indicated in classical times. Furthermore, I will assume that literacy skills center on the use of print and that at a minimum this requires reading and writing. The addition of writing to the definition of literacy appears to be a contribution of the Reformation. Spufford (1981, p.149) states " 'Literate' by definition implies the ability to write." Nevertheless, *literacy* is still occasionally used in reference to reading alone. For example, a military test based on the difference between reading and listening, without assessment of writing, is labelled *Experimental Literacy Assessment Battery* (Sticht & Beck, 1976). Cipolla (1969) proposes the terms *semi-literate* and *quasi-literate* to refer to those who read but cannot write. Cipolla also uses these terms for those who read and write poorly, but this addresses the problem of labelling points or regions on a continuum from zero literacy to the fullest literacy, a problem that will be attended to more fully below. *Semi-literate* and *quasi-literate*, because of their imprecision, offer little help in our search for adequate nomenclature.

More problematical than *literacy* is the term *illiteracy*. With some exceptions, *illiteracy* tends to be applied to those who fall below any recommended criterion level, no matter how arbitrarily derived. Thus, by some definitions those who read and write simple messages are placed in the same class as those totally ignorant of writing and alphabets. Furthermore, the terms are often defined asymmetrically. Webster's *New Collegiate Dictionary* (1954), for example, defined *literate* as "able to read and write" but *illiterate* as "unable to read." (This was changed, however, in the most recent

edition (Mish, 1984).) Where *literate* is often modified to refine what level of literacy is implied (e.g., highly literate, marginally literate), *illiteracy* is rarely made more specific. In what follows I will reserve the term *illiterate* for those lacking totally in reading/writing knowledge.

Functional Literacy and Its Domain of Reference

One of the first tasks in refining the meaning of literacy is to attend to all of the phrases that include the term literacy, such as *conventional literacy, functional literacy, survival literacy, marginal literacy,* and *functional adult literacy*. Most writers today tend to treat literacy according to ideas first operationalized by UNESCO in the 1950s. In several seminal studies done by that agency, literacy was viewed as a continuum of skills, including both reading and writing, but applied in a social context (Gray, 1956; UNESCO, 1957). Literacy requires procedural knowledge--the ability to do something, as opposed to declarative knowledge--knowing of something. For convenience in reporting and in policy making, the statistical division of UNESCO proposed in the late 1950s that literacy statistics be recorded according to those reaching a *minimal* level and a *functional* level. The former implies the ability to read and write a simple message; the latter implies a level of literacy sufficiently high for a person to function in a social setting.

The phrase *functional literacy* suggests the possibility of a *non-functional literacy*. One form of non-functional literacy may have been implied by the Honorable Margaret M. Heckler, who in reporting the results of the Survival Literacy Study (Louis Harris and Associates, 1970) to the U.S. House of Representatives, contrasted reading ability as a *survival technique* with reading ability as an *academic pursuit*.[2] One of America's most popular dictionaries supports this contrast by defining the adjective *academic* as "very learned but inexperienced in practical matters" (Mish, 1984, p.48, col.1). As embarassing as this may be for those of us who prowl the academic corridors, the distinction between *functional* (i.e., practical, useful) literacy and school-based (i.e., academic) literacy is incorporated in everyday usage. While plain vanilla literacy is hardly non-functional, the types of literacy taught in most elementary schools do not stress the practical use of reading and writing in everyday life. Thus, the phrase *functional literacy*, even though it may be redundant, may help convey the sense of social relevancy that is critical for a proper understanding of literacy.

The phrase *functional adult literacy* (Nafziger, et al., 1975), represents a further attempt to make explicit a word's definition. The issue that the term *adult* raises derives from the need to include social relevancy in the definition of literacy. That is, if literacy is some complex of skills that are demonstrated in socially relevant contexts, then it is logical to assume that until one reaches or approaches adulthood there are not sufficient opportunities to apply these particular skills, and therefore they can not be adequately assessed.

This is confirmed in part by the reporting practices of a number of social agencies. The United States Census Bureau, in reporting literacy statistics from 1870 through 1930, applied them only to persons 10 years of age or older. In 1959 and 1969 the reporting for literacy statistics was confined

to those 14 years of age and older. In contrast, the Division of Adult Basic Education in the U.S. Office of Education reported its data for persons 16 years of age and older. The UNESCO Expert Committee on Standardization of Educational Statistics recommended that "if this question [on literacy] is confined to the population above a stated minimum age, the minimum should not be higher than 15 years" (cited in UNESCO, 1957, p.21). It is doubtful that we would call a two-year old who does not read and write illiterate. Would we on the other hand call today a 10 year-old who does not read and write an illiterate? If literacy is an ability which is demonstrated in such contexts as work, voting, and home management, then the measurement of literacy rates for any population are most logically done at the age levels where these activities have meaning for that population. For most of the population in the U.S.A., work permits cannot be obtained prior to the age of 16 and voting in national elections becomes possible at 18. What is meaningful, however, is not simply the ages when a few major transitions occur, but the *age range* during which a person is expected to interact with society more as an adult than as a child: to understand and be responsible for the regulations of automobile driving, work, and common commercial activities; to be aware of local, regional and national events; to travel on one's own; select and engage in recreational activities; and to negotiate the more common compenents of education and social life.

Coupled with these criteria are those that derived from the extended nature of modern education. While in Colonial and early 19th century America formal education might end at age 7 or 8 when a child was ready to enter the labor force, present day children in some countries do not begin formal schooling until age 7. But even when children began working at 7 or 8 it was not expected that they would function as adults vis-a-vis society in general, and therefore no one expected fully literate behavior at such early ages. It seems reasonable, therefore, to continue to use *literacy* as a referent for adult or near-adult abilities, and to avoid such compounds as *functional adult literacy* (or *functional child literacy*). We do recognize that the skills that underlie literacy develop over many years and develop unevenly over any large population of students. We can speak of the levels of development which any person might have attained in the various skill areas which literacy requires, but it is probably not meaningful to report *literacy* as such prior to the age of 16. (At issue here is not the meaning of literacy for individuals, but its meaning to society. Literacy rates are meaningful as indicators of population characteristics only when applied to those who need to be literate.)

A more subtle issue is raised by Fisher (1978) who claims that individuals who can cope within environments in which print processing is required are by definition functionally literate, regardless of whether or not they can pass reading and writing tests. Fisher may be claiming that the mechanisms through which one obtains meaning from print (and communicates with it) are not relevant to the determination of *functional literacy*. Thus through oral means, coupled with an awareness of non-verbal cues, one might perform satisfactorily, or at least appear to do so, in a context where print processing is frequently required. Whether this speaks to the definition of literacy or to the follies of middle management in some organizations, we cannot determine from available evidence. I will without further discussion reject Fisher's argument and continue to define

literacy as requiring a defined set of skills as opposed to a coping behavior that might be based on deception, avoidance, or upon the literacy skills of others.[3]

Of the other phrases cited at the beginning of this section, *conventional literacy* is synonymous with *functional literacy*, only carrying perhaps slightly more emphasis on the everyday, non-work related uses of print. *Marginal literacy* and *survival literacy* are attempts to define cuts along a functional literacy scale, an issue that will be examined below.

The Skill Requirements of Literacy

The view of literacy as a complex of skills is reflected in the first NAEP Adult Work Skills and Knowledge Assessment that was done in 1973-74 and in the Adult Performance Level Functional Literacy Test that was also developed in the mid-1970s (National Assessment, 1976; Nafziger, et al., 1975). In these surveys literacy skills were defined in terms of the print demands of occupational, civic, community, and personal functioning.

In these and other literacy surveys (e.g., Kirsch & Jungeblut, 1987), four basic types of skills are consistently included: reading, writing, numeracy, and document processing. On the inclusion of reading as a component of literacy, there is no argument, but on the types of reading and the criterion levels for basic or functional competency, there is still not widespread agreement. School-based reading assessments are generally based on continuous texts (fiction and non-fiction), with items that draw on a range of vocabulary and comprehension skills. Scaling and reporting is generally done in grade level equivalents, a practice which may not be appropriate for adult assessment.

Some adult reading demands clearly differ from those imposed on children. Consider, as an example, the skills required for reading exit signs while driving on a freeway at 60 miles per hour, or for reading subtitles on a foreign film. Both tasks may require reading speeds beyond those obtained by the average fourth grader, yet may not require significantly higher comprehension levels, especially with the other cues available.

On the literacy requirements for writing, we have limited empirical evidence for establishing competency levels. Between Thorndike's handwriting scale (Thorndike, 1910) and the recent discovery of process writing, relatively little work was done on the cognitive demands of writing. The rediscovery of the work by Vygotsky (1962) and by Luria (1978) on writing, and the current studies on the writing process have reconfirmed Samuel Johnson's claim that "What is written without effort is in general read without pleasure." As Vygotsky (1962) claimed, writing requires ability in abstract, deliberate activity. We are far, however, from grade level norms for composition, in spite of expanded research and assessment activities (e.g., Martlew, 1983; Whiteman, 1981; Applebee, Langer, and Mullis, 1987).

On numeracy, there is a growing concensus that at least basic competence in this area is required for literacy, but exactly how much has not been thoroughly discussed. One argument is that

numeracy beyond addition and subtraction is too specialized to include in a definition of basic literacy. If we do include high levels of competence in multiplication, division, and operations with percentages, then we eliminate from the ranks of the literate a high percentage of America's young adults (Kirsch & Jungeblut, 1986). A more reasonable approach is to confine *functional literacy* to those basic numeric operations which are critical for ordinary meaning of print: basic addition and subtraction, comparison (greater than, less than), dates, time, and perhaps a few other skills. Exactly what to include, however, must await a thorough analysis of the literacy tasks of everyday life.

A fourth skill domain in *functional literacy* is document processing. This category is perhaps the most difficult to define empirically, due to the limited amount of research done on it. Most notable is the recent Young Adult Literacy Assessment done by the National Assessment of Educational Progress, which examined literacy abilities with tasks based on common documents (Kirsch & Jungeblut, 1986). The moderate correlations found between the liteacy scale based on documents and those based on prose and quantitative analysis indicate that document processing makes a significant independent contribution to literacy ability.

Document knowledge is usually defined as the ability to cope with different document formats such as job entry forms, tax schedules, television schedules, advertisements and labels on products. But it is also critical to think about the skills that go into the processing of these documents and to analyze their psychological demands. Document processing tends to differ from reading fiction in that most document processing is initiated by a narrowly defined task that usually requires selective processing, while fiction reading usually has a general, diffuse task (e.g., read and enjoy) and assumes complete or nearly complete reading. Document processing tasks, such as finding an entry in a train schedule, often require specialized knowledge relevant to a particular document format. Finding information in such contexts is more like problem solving than like comprehending plot, character, or author's purpose in reading fiction.

In concluding this section I feel compelled to muddy the skill issue by pointing out that both psychologically and by common practice the skills defined above are not equal partners in the literacy business. Reading is clearly primary to any definition of literacy and the others are, in some sense, secondary. Writing presupposes reading: otherwise it is mere copying. Similarly, numeracy and document knowledge are supplementary to reading, and have no role in the literacy equation without it. The skilled reader, ignorant of numeracy and document formats, still will obtain significant amounts of meaning from print. On the other hand, the non-reader who is skilled in arithmetic and in document styles will stumble more often than not in an environment based on print. Most of our concern, as implied above, is with those who do not read well and therefore need the added facilitation that derives from knowledge of specific document formats and from numeracy.

How literate is *literate* ?

Variable criteria

In the previous sections I have touched on the criterion level issue for literacy. The first part of this issue concerns the criterion level required for any given definition of literacy. The second is whether for the United States (or any other political unit) a single criterion level and therefore a single form of literacy is adequate for educational and political needs at a given point in time. (The issues related to changes in literacy demands over time are discussed in a following section.)

The argument I would like to develop is that *literacy*, as a socially defined concept, represents an aspiration as much as it does a reality. Although we can define differing types of literacy for different regions of the country, different social strata, different levels of involvement in society, and so on, from a national policy perspective equality of opportunity is the standard, and therefore only a single definition of literacy has meaning, applied to all citizens. To accept, for example, different definitions of literacy for different regions of the country, and therefore to promulgate policies that would tend to perpetuate thses differences, would be inconsistent with the current equity goals of this country. To afford less training to someone living in Mississippi than in Illinois would be to value the former less than the latter.

This is not to claim that the literacy demands of different regions, occupations, or life styles do not differ, nor is it to say that we can define easily what this national literacy is in terms of both skills and competency levels. Most of that challenge remains in front of us. Nevertheless, so long as literacy remains a national concern, it is encumbent upon the government to strive for an understanding of the general literacy needs of work, citizenship, housekeeping, and private life; to seek effective means for assessing these needs; and to encourage assistance to those who fall below certain minimal levels of performance, no matter how arbitrarily set.

Critical levels

Literacy abilities in any population vary from none, or almost none, to advanced beyond the level where measurement has any meaning. The choosing of any point along this continuum to define minimal ability for functional literacy incurs the risk that all of those below that point will be incorrectly labeled *illiterate*. We might, however, consider a suggestion made by UNESCO (1957) to report minimal literacy and functional literacy. Cross-national studies of reading processes suggest that a common core of psychological abilities may exist for reading and, in particular, for reading alphabetic and syllabic writing systems. These processes involve primarily the coordination of eye movements into fixations and subsequent saccadic jumps; the acquisition and utilization of symbol-sound correspondences; the building of rapid identification of word units through the integration of information from a variety of sources; and the use of local and global processing to obtain meaning (Gray, 1956; Downing, 1973). The basic or minimal level of literacy corresponds to

what Gray (1925) and Chall (1983) call Stage 2 in their respective development schemes. This might also be the minimal level required for self-sustained development in the reading component of literacy. Gray (1956), for example, assumes that four to five years of schooling are required to continue competent reading. This may be true in western countries today, assuming that schooling begins in the age range of 5 to 7, but historically vast segments of the American population became literate with less than this amount of schooling.

What has changed in learning situations between 1800 and now is an issue beyond the interest of this conference, but one worthy of further investigation. What I suggest is that if empirical investigations continue to support a universal set of basic reading skills, and that similar levels can be defined for writing, numeracy, and document knowledge, that we define two levels of literacy: *basic literacy* (which I prefer over the term *minimal literacy*) which applies to the level that allows self-sustained development in literacy to continue; and *required literacy* which is the literacy level that is required for any given social context, and which might, therefore, change over time. *Functional literacy* remains useful as a general designation of abilities above basic literacy, allowing some level of functioning though print in society. On what levels of competency are required in the four component skills, we must await further exploration of literacy needs. I do suggest, however, that we reject as inadequate and misleading the use of grade level equivalents for literacy levels.

Part of the drawback to applying grade level reading scales to literacy ability is that these levels are based exclusively on reading, with no assessment of writing, numeracy, or document processing. While there will always be a moderate correlation between reading ability, as measured by school-based tasks, and adult literacy, to claim that any given grade level of reading ability is necessary for literacy ignores first that other skills are also involved, and second that the skills may interact in non-obvious ways such that relatively low levels of reading may be compensated by higher levels of other skills. This is not to claim that certain basic levels are not required of *all skills* to reach even *basic literacy*. Rather, it is a caution that there is little empirical justification for claiming that 8th or 12th grade reading levels, for example, are needed for present day literacy (cf. Bormuth, 1975; Carroll & Chall, 1975). The second drawback is that reading grade-level equivalents are based on school-related reading and are derived from children, not upper teenagers or adults. The role of background knowledge in reading has been a central focus of recent comprehension research (e.g., Tierney & Cunningham, 1984). What is evident from this research is that an adult and a child, bringing different types of experiences and knowledge to the same reading task, may demonstrate the same outcomes with widely varying basic reading skills.

Then most readers show differing reading abilities across different types of material. For example, Pressey & Pressey (cited in Gray, 1984/1941, p.37) concluded from a series of reading tests based on poetry, scientific material, and stories that "a good reader in one type of subject matter may very likely be a poor reader with other material." Similar results were obtained by Judd and Buswell (1922) based upon fiction, geography, rhetoric, easy verse and algebra passages. These and other studies suggest that readers, and particularly readers who are not in the highest ranges of

reading ability, will show differential abilities based upon interest, past experience and perhaps upon other motivational factors.

Change over time

The functional literacy demands faced by Betsy Ross were different from those faced by Horatio Alger. And these were different from those faced by shopkeepers and seamstresses today. But what has changed? Certainly not the level of difficulty of the syntax and vocabulary of legal documents, news accounts, or public announcements. These may, in fact, have become easier to comprehend over the past 300 years. Nor has the level of comprehension required for functional use changed. "Not", for example, had roughly the same negating function in Captain John Smith's 1608 treatise *A True Relation* as it had in Ollie North's recent testimony in the Iran-Contra hearings, and requires the same level of understanding in each case.

What has changed is first the demands for writing, numeracy, and document knowledge, and second the quantity of printed materials that are encountered every day. Today's expectations for writing, and numeracy in particular, far exceed those of even 150 years ago. Lincoln's claim about schoolmasters of his youth that "no qualification was ever required beyond "'readin', writin', and cypherin' to the Rule of Three."' gives a hint of this difference (cited in Johnson, 1904/1963, p.128). With the increase in quantity of printed material has come a demand to read faster, which has been reinforced by technological changes, as suggested above for freeway signs and movie subtitles.

How literacy demands of work interact with the literacy skills of the labor pool is not well understood. On one hand is a tendency for literacy demands to increase over time as more and more facets of work incorporate technology and as service jobs proliferate in place of manufacturing positions. On the other hand, some perceive a "dumbing down" of certain service positions to meet lower ability levels of the available labor pool (See Venezky, Kaestle, & Sum, 1987). However this dynamic works, change in overall literacy requirements of work, as well as other components of everyday life is highly probable. Perhaps we need a literacy index, equivalent to the consumer price index, to register yearly shifts in functional literacy requirements. With or without such codification of change, an adequate definition of literacy must incorporate change in some meaningful way.

Literacy and the Non-Native Speaker

So far I have avoided the thorny issues that attend literacy for non-native speakers in a particular culture. For the most part these are political matters and are best left for the segment of this meeting that will confront that set of complexities. For definition making, three cases need to be distinguished. These will be framed for English in the USA but apply, *mutatis mutandis*, elsewhere.

1. Non-native speakers, literate in their own language who have acquired English speaking ability.

2. Non-native speakers, lacking required literacy in their own culture, but speakers also of English.
3. Non-speakers of English.

For case 1 we expect literacy in English, but even if it doesn't develop we cannot usefully apply the label "illiterate." These people may be *non-English literate* (where *non* modifies "English literate"), but it is still significant for policy and pedagogy that they are literate in some language. For case 2 we might apply the term *illiterate*, but still need to distinguish between *illiteracy* in the native language and *illiteracy* in English.

Those in case 3 might be labeled illiterate for their native language, but this label has no import for them (or anyone else) in relation to English. All of us could be labeled illiterate for every language we do not speak, but nothing is gained by this practice. Even if we restrict our interests to those residing in the USA, the term *illiterate* is not a functional label for those who neither read nor speak English, primarily because their *illiteracy* results automatically from their inability to speak English. Instruction in spoken English is a critical step in their acquisition of literacy. At a minimum, we need to distinguish *illiteracy* as a non-contingent trait. These are policy issues, however, not ones that depend upon deeper understandings of information processing, mental development, or any other cognitive traits.

Summary

In summary, the issues encountered in defining literacy derive from limitations in the empirical study of literacy needs and literacy practice. The issues most in need of investigation are:

1. Does a common psychological mechanism underlie basic reading and writing for alphabetic and syllabic writing systems? That is, can we discover a common set of psychological processes across languages that are in some sense minimally required for self-sustained literacy? If so, then we are justified in positing a *basic literacy* that is relatively fixed within and across cultures, and a pragmatic or *required literacy* that varies according to cultural demands and which often includes numeracy and document processing abilties.

2. For required literacy, defined according to some accessible, present day social context, what are the levels of reading, writing, numeracy, and document processing skills required and how do they interact? For example, to what degree can high document processing ability compensate for minimal (i.e., basic) levels of reading? We have more than 100 years of probing, poking, and experimenting with reading to draw on, but far less available for writing, numeracy, and document processing.

3. At what ages do different cultures expect their members to interact socially and economically as adults and therefore to be functionally literate? This issue poses a difficulty for assessing literacy in that for most cultures, no single 'bar mitzvah' point is defined. Instead,

responsibilities are acquired gradually according to cultural, family and individual circumstances, with legal empowerment often playing a minor role. A 14-year old mother, as a single parent, may have needs for literacy far beyond those of a single, 18-year old woman living with her family on a farm. In the past, performance monitoring has been age-based, at least for the initial age at which literacy is assessed. Perhaps *level of responsibility* is a better selector variable than age, except that the complexities in defining this entity may far exceed its advantages.

Endnotes

[1] Wormald (1977), in writing about literacy in Anglo-Saxon England, uses *pragmatic literacy* to refer to lower level functional literacy, and *cultured literacy* to refer to Asheim's *higher literacy*.

[2] *Congressional Record*, Nov. 18, 1970, Vol. 116 (no.184).

[3] A similar issue was raised many years ago in the report of an American soldier during World War II who received letters written in Russian from his immigrant parents. The soldier understood spoken Russian but could not read it. Another soldier in his unit had learned to pronounce Cyrillic script even though he could not understand Russian. Therefore, the latter soldier pronounced the script and the addressee listened, thereby coming to know the content of the letters. The issue raised by this process was "Who is reading?". The simplest answer is either *neither* or the *two together*. By definition, neither reads Russian by himself.

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Definitions of Literacy:

Responses[1]

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[1] This response paper was prepared for the Symposium "Towards Defining Literacy," sponsored by the Center for Literacy Research, University of Pennsylvania, and the National Advisory Council for Adult Education. It was written partially in response to the position paper "Definitions of Literacy", written by Richard L. Venezky.

Definitions of Literacy: Responses

1.0 Summary and high points of Venezky's paper

Professor Venezky has provided a good beginning point and summary for the polemics of defining literacy/-ies. His stated goal was to "open to critical examination the various contemporary meanings offered for literacy." (p.1) My intent here is to respond to several of the points he raised in his paper and then to move on to points of omission, I believe must be identified if a national discussion is to responsibly take place on literacy.

Professor Venezky maintained a fairly small range of meanings in his paper, if only to make the discussion more manageable. His basic definition of literacy is not very different from many in the field, and is assumed as the beginning point:

> "Furthermore, I will assume that literacy skills center on the use of print and that at a minimum this requires reading and writing." (p.3)

He is also concerned with the threshold or minimum level of this use of print.

> "As a first step in defining literacy, therefore, I will qualify the rang of abilities referred to as minimal or near minimal for some goal, as opposed to advanced, as was indicated in classical times." (p.3)

While reserving the term illiteracy "for those lacking totally in reading/-writing knowledge" (p. 4), he proceeds to discuss functional literacy and other terms, the skills required for literacy, proficiency levels, and the non-English speaking individual. His discussion of definitions is limited t adults.

> "It seems reasonable, therefore, to continue to use literacy as a referan for adult or near-adult abilities.... (At issue here is not the meaning o literacy for individuals, but its meaning to society. Literacy rates are meaningful as indicators of population characteristics only when applied to those who need to be literate.)" (p.5)

He proposes to basic levels of proficiency:

"...basic literacy ... which applies to the level that allows self-sustained development in literacy to continue; and required literacy which is the literacy level that is required for any given social context, and which might, therefore, change over time. Functional literacy remains useful as a general designation of abilities above basic literacy, allowing some level of functioning through print in society." (p.8)

The paper argues for literacy as procedural knowledge vs. declarative knowledge (p.4) and four basic types of skills: reading, writing, numeracy, and document processing/knowledge. Reading is, however, primary.

"Reading is clearly primary to any definition of literacy and the others are, in some sense, secondary. Writing presupposes reading.... Similarly, numeracy and document knowledge are supplementary to reading, 'and have no role in the literacy equation without it." (p.7)

In answer to the question of "How literate is 'literate?'", he identifies three necessary elements: (1) there must be variable criteria, (2) one must include critical levels [of proficiency], and (3) it must allow for change.

Professor Venezky then identifies the definitional issues attendent to literacy and the non-native speaker as involving at least three kinds of "non-native speaker":

- o bilingual, mono-literate;
- o bilingual, non-literate; and
- o monolingual in a non-English language (for whom the label of illiterate in English has no logical meaning).

He describes these issues as thorny, and "for the most part ... political matters" (p. 10) and defers any further discussion of their "complexities."

2.0 Responses to the paper: Social is social

In any discussion of language, particularly within the definitional polemics for literacy, we must distinguish between the abilities as competence and the use of those abilities in concrete situations as performance. These are obviously related since you can't perform reading or

writing if you can't read or write, nor can you assess those parallel abilities absent any performance. While Professor Venezky assumed literacy skills center on the use of print, I assume, and so define, reading as making sense (or meaning) from written symbols, and writing as the use of a system of signs to convey meaning. Literacy, thus encompasses both reading and writing. Both reading and writing are meaning construction processes and abilities, some parallel to other language/communication skills and processes.

Whereas all normal children throughout the world acquire their maternal oral language(s) relatively easy, at a similar rate regardless of the language, and as a required feature of their material and human circumstance, literacy is, more often than not, a formally "taught and learned" set of abilities, and may or may not be socially "required." Professor Venezky has helped us guide and focus our discussion in making this last point.

He has also helped us avoid many of the hidden polemical traps by avoiding the terms cultural literacy, or succumbing to collapsing reading and writing abilities with "education", or many of the other notions of "high culture." The English language is quite flexible enough to be used to talk about these other social notions without confusing them with "literacy." Although this is often done quite purposefully for other reasons than defining "literacy."

There is a rub, however, in focusing on numeracy, and document processing, as well as uses or functions to which literacy (primarily writing) is put. If we focus on the uses of literacy we are basically answering two questions:

- Under what circumstances does reading take place most effectively?
- For what purposes and with what forms does someone write?

I state these questions as such because they allow us to organize the issues raised by the reading comprehension and ethnographic research of the last two decades, in particular, the role of background knowledge in reading comprehension, the familiarity of text structure and organization (Professor Venezky's "types of materials", as well as the arguments for document processing), and the differential patterns of use of writing by social, ethnic/racial, and gender groups.

It is unfortunate that Professor Venezky relegates the definitional issues raised by language pluralism and literacy within the United States to the political realm. In several areas (e.g., language and cognition, second language acquisition), bilingual and bi-literacy research are providing the more exciting intellectual and cultural experiences. His interest in the "universal basic [developmental] processes" of literacy would seem to demand he consider these more fundamentally than he did. I suspect, with all due respect, that he responded more bound by his cultural blinders than he recognized or was willing to admit. Although I suspect his point of reference throughout most of his paper was English literacy, it was only towards the end that we were given explicit cues to this assumption. Much of the "literacy" and "reading" literature produced in this country assumes English is the language of concern. Some of these research writings also assume that whatever is "discovered" about English, must be universal to Language. With over 28 million persons in the United States living in households where a language other than English is spoken, more systematic research and policy attention should be paid to the issues of bilingualism and literacy and to biliteracy itself.

One particular concern in this area is the notion of whether or how much English oral language proficiency should be mastered before English literacy instruction is introduced (for school age persons as well as adults). Many of the literacy service centers provided throughout the country over the last several years have turned away non-English speakers saying "we don't provide English as a second language instruction here." Some of these centers are beinning to link up with other community services or at least ask whether or not the individual is literate in any other language. In areas of high concentration of language minorities, we must ask ourselves whether inattention to this issue is not done purposefully; Are we interested in literacy instruction, or in English language literacy alone?

One last reaction to the paper involves the decision to limit the discussion to adults. Reading instruction is so central to the national school curricula, that I believe we can safely say their is a societal expectation that school age children will be able "to read" certainly by the end of elementary school. Many of the definitional issues raised in the paper were applicable to youngsters much younger than 15 years of age, and involved more than an age differential with adults.

3.0 Summary

Professor Venezky's paper provided, I believe, a good basis for critically "examining the various contemporary meanings for literacy." He shared a brief historical review of the social notions of literacy, related to reading, writing, numeracy, document knowledge, and "education." He particularly focussed on functional literacy and the implied abilities and levels of proficiency. If I were disappointed, it was in that it did not focus on enough issues and enough of the "contemporary meanings" available. A disappointment made real due to the limits of space and time.

(DRAFT)

LITERACY FOR WHAT PURPOSE?

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LITERACY FOR WHAT PURPOSE?

* Literacy liberates.
* Literacy is used to domesticate free individuals.
* Literacy use is growing.
* Literacy use is shrinking.
* Literacy illuminates the ways of God to humanity.
* Literacy sells soap.
* Literacy spawns creativity and makes possible between individuals links which span space and time.
* Literacy serves gate-keeper functions.
* Literacy, by itself, wields no magical transforming power over learning and life.
* Literacy scholars will never produce a comprehensive social history of its uses or a comprehensive theory to explain the history of texts and readers.

Each of the above thoughts has been articulated by one or more scholars examining the purposes and functions of literacy. Though contradictory, each is probably true. Each thought, in turn, becomes false as soon as it is overgeneralized and used as an ideological platform from which to offer an overly simplified explanation of complex reality.

The purposes, uses, and formats of literacy are varied and expanding. How literacy is used is determined, to a large extent, by social contexts and it is becoming increasingly clear that, in general, literacy abilities only partially transfer from one context and format to others. Many mistakes we make and have made in relation to literacy stem from misconceptions or overly generalized conceptions of what literacy is and how it is used.

Literacy Misconceptions

Traditional misconceptions about how literacy works and what it can and cannot accomplish have influenced and limited our understanding of literacy. These same misconceptions have compromised the effectiveness of educational and policy decisions we make in relation to literacy. Guthrie and Kirsch (1983) identify one traditional misconception as the viewpoint that literacy is a unitary, dichotomous, psychological capability that is learned with the appropriate educational opportunity. One either gets literacy or one does not. A second and related misconception is that mastering literacy in one context substantially transfers to other contexts.

More than a decade of research examining the purposes and uses of literacy has demonstrated that:

* literacy processes vary widely to reflect the pluralism of contexts in which literacy is used, and

* transfer of literacy abilities is severely limited by differences in format, social support networks, and required background information as one moves from context to context.

For example, literacy in schools often involves independently reading to answer end-of-chapter questions or, on some occasions, carefully studying material to remember, synthesize, or evaluate it. Purposes and uses of literacy outside classrooms is rarely school-like. School literacy processes often differ from those used, for example, to read a troubleshooting manual on the job or gather information to fill in a form.

There is, of course, some transfer from reading one sort of material to the ability to read other sorts of material. Research of the last decade, however, suggests that this transfer is greatly limited. The most recent NAEP study of young adult reading reveals only about 25% shared variance between prose and document reading performance (Kirsch and Jungeblut, 1986). Readers who do well with many different types of literacy usually have practiced with many different types of literacy and often outside schools. Studies in the U.S. military (Sticht 1980, 1982) and across cultures (Scribner, 1984) indicate only a little transfer from general reading ability to specific uses of literacy. A soldier in a basic skills class may improve in literacy abilities while in class, but not be able to transfer that gain to job performance. He or she will be likely to lose literacy gains once outside the practice environment of the class.

Mastering the specific processing and cognitive demands of task and format may be more key to successful literacy performance than is mastering a common core of basic literacy skills.

The Influence of Context on Literacy Purpose

Both historical and sociological perspectives provide clear examples of the overwhelming influence of context on literacy purposes, demands, and processes. An historical examination of many cultures suggests that literacy often begins as a means of recording and preserving the "holy words" which are initially read, memorized, and used with a minimum of interpretation. Literacy evolves to serve purposes of genealogy, government, commerce and communication (Kaestle, 1985). During this evolution, the literacy processes, needed additional background knowledge, and social networks supporting literacy expand and differentiate. When a substantial portion of a society or group master literacy, literacy uses expand still further and profound political and social changes often occur (Goody and Watt, 1963). Graff (1986) points out that there is little evidence that basic literacy, in itself, wields a magical transforming power for learning and life. It is more likely the case that written language can add power to our communication potential and that increased potential can lead to the development and expansion of human potential (Harste and Mikulecky, 1984).

Critics examining literacy from a neo-Marxist perspective are quick to point out that contexts, purposes, and processes are of key importance. Limited teaching of functional skills can become an exercise in domestication (Lankshear, 1985), while the teaching of a "critical literacy" can enable teachers and students to formulate strategies to change the form, content, and social relations of education with an interest in freedom and democracy (Kretovics, 1985).

Historical Changes in Literacy Contexts in the U.S.:

In the United States, fairly recent significant changes in the literate population have interacted with and helped change our national context and purposes for literacy. In 1870, only 2% of the population graduated from high school and two generations later, in 1910, the proportion was still a low 8%. Of this group, 3/4 went to college. At the beginning of this century, for the most part, high level literacy and education were the province of a very small elite (Mikulecky, 1987).

Throughout the century, responses to the demands of wars, technology, and heavy emphasis on public schooling increased the basic literacy levels of the majority. As more individuals mastered basic literacy, contexts began to change. It became possible to communicate information more readily in print. More complex written information became part of the social and literacy context. During World War II, the U.S. Army found it necessary to set a minimum criterion of fourth-grade reading level for acceptance into the army. By the 1980s, the criterion level

became high school graduation. During the same time period, the difficulty of newspaper wire-service stories climbed to 11th-12th grade level (Wheat, Lindberg & Matman, 1977). Magazine difficulty levels are almost universally in the high school difficulty range (Reading Today, Feb/March, 1986, p. 16). In the workplace, over 90% of jobs called for regular uses of literacy, and the vast majority of occupational materials (manuals, memos, announcements, directions, etc.) were written at high school levels of difficulty or higher (Mikulecky, 1982; Sticht and Mikulecky, 1984).

It should not be inferred that higher levels of literacy are therefore required to function. It is possible for a few talented individuals with coping strategies to function in spite of low literacy abilities. In part the context of increased literacy demands can be explained by the context of a more technical, information rich society. Resnick and Resnick (1977) note that, in the U.S. and in France, literacy demands have increased as literacy abilities have climbed. Levine (1982) points out, however, that we shouldn't infer that everything need to be so difficult and complex in literacy terms. He uses a crowd metaphor to explain part of the phenomenon of rising literacy demands. The new context is like what happens when the front row of a crowd rises. Everyone else has to rise to see and participate. As the average ability level of the population increased to the high school level, material difficulty tended to rise to that level.

In any case, it is clear that the historical context for literacy use has changed dramatically. Literacy use has expanded

and is intertwined with nearly every function of our society. Average ability levels have climbed (though not equally for all), and the complexity of literacy tasks has increased in reaction to increased literacy sophistication of the population and to the increased complexity of occupational and social tasks.

Categorizations of Literacy Purposes and Uses:

Listing the purposes and uses of literacy into meaningful categories is a task impossible to do well. Researchers often ignore each others' categories and classify them as too broad or too narrow to be useful. Heath's (1980) analysis of literacy use in southeastern mill towns produced seven categories of literacy purpose and use which fall between the extremes. Heath's categories are:

Instrumental. Information about practical problems (price tags, checks, bills, ads, street signs, house numbers).

Social-interactional. Information for social relationships (greeting cards, cartoons, bumper stickers, posters, letters, newspaper features, recipes).

News-related. Information about third parties or distant events (newspaper items, political flyers, messages from gov. offices).

Memory-supportive. Memory aids (messages on calendars, address and telephone books, inoculation records).

Substitutes for oral messages. (notes for tardiness to school, message left by parent for child).

Provision of permanent record. (birth certificates, loan notes, tax forms).

Confirmation. Support for currently held ideas and attitudes (brochures on cars, the Bible, directions for putting items together).

Other researchers (Northcutt, 1975) have employed topic categories (i.e., Occupational, Health, Government, Community, etc.). In a random selection survey of nearly 500 adults, Mikulecky, Shanklin, and Caverly (1978) found that adult purposes for reading were, in order of importance:

1. to keep up with what is going on.
2. for relaxation and personal enjoyment.
3. to find out how to get something done.
4. to study for personal and occupational advancement.
5. to discuss what has been read with friends.

The Influence of Social Networks:

The influence of social networks upon the uses and purposes for literacy has received increased attention during the past decade. Literacy use in the home, the workplace, and society in general has been found to differ significantly from school-type literacy. Heath (1980, 1984) studies 90 blacks from two mill towns in the southeastern United States. Among this group, reading was valued almost exclusively for its functional purposes (reading bills, signs, letters, recipes, and so forth). These tasks were often performed cooperatively. Fingeret (1983), after using ethnographic methods to study low literates, reported

intimate social networks among low literates and their friends in which services like baby sitting and baking were traded for literacy help. Mikulecky (1982) reported that workers asked literacy related questions of each other nearly twice as often as did students in school. The purposes for which one uses literacy and the way one goes about using literacy to function are often related to how one functions in social networks.

Implications of the Link between Social Contexts and Literacy

Research findings on the link between literacy and social contexts suggest important implications for educators and policy makers. They are as follows:

1. It is inappropriate and inaccurate to assume that low literate adults are helpless in the face of generally high national literacy demands.

Research by Heath (1980, 1984) and Fingeret (1983) portrays low literate adults as intelligent, capable human beings able to function reasonably well in their own social networks. Often literacy is "worked around" or sometimes avoided all together. Heisel and Larson (1984) similarly report that a large sample of undereducated elderly adults had developed the skills and social networks to meet the demands of their social environment. There is little evidence to justify characterizing low literate adults as helpless.

2. Because literacy use and purpose are so closely linked with racially segregated social contexts and networks, a heavy

potential exists for literacy being used inappropriately for discrimination and gatekeeping.

Gilmore (1985) reports Black youth who exhibit symbols of "street" behavior related to their social networks are often not assigned by teachers to academic achievement programs even though evidence suggests they could succeed in such programs. Mikulecky (1987) reports that the difference between urban and suburban schools can be characterized by dropout rates approaching 70% in one and college admission rates over 70% in the other. Neighborhood and social class values, which have become enmeshed with race and ethnicity, play key roles in these adolescent choices. On nearly every indicator of the most recent National Assessment of Educational Progress, average scores for whites far exceed average minority scores. For these reasons, use of credentials or general reading test data for screening decisions is likely to automatically discriminate against minorities. Griggs vs. Duke Power company and several subsequent court cases have clearly indicated that literacy can only be used legally as a screening mechanism for employment when a clear case can be made that literacy tests reflect actual job demands (Mikulecky & Diehl, 1978). Such controlling precedents are not yet in place for other gate-keeping uses of literacy test scores and credentials.

3. The same social networks that support low literate individuals may function to trap individuals into remaining low literates.

Though it is important to recognize the richness of social networks and alternative ways to manage literacy tasks, it is also important to note that some social networks are counterproductive to individual and societal growth. Lemann (1986), in his insightful analysis of the relationships between race and social class, pointed out that many middle-class Blacks have abandoned America's inner cities. They left behind an "underclass" trapped by poverty, drugs, poor education, and a systematic pattern of survival skills for the inner city which are counterproductive for life anywhere else. On an individual level, Johnston (1985) notes that some adult illiterates may have defined their marriages and other social relationships around the opportunity and need for others to help them with literacy. For these adults, learning to be literate risks destroying intimate relationships. Such mutual dependency relationships also characterize many of the social networks of illiterates described by Fingeret (1983). Some supportive social relationships and networks can help low literates to function while at the same time preventing them from changing, growing, or moving into more literate arenas. Educators and policy makers need to recognize that literacy improvement may sometimes hinge on providing the support necessary for relationships and networks to change along with their members. In other cases, literacy improvement may hinge on removing the individual or destroying the destructive or counterproductive network.

Desirable Directions

The information discussed in this paper suggests a number of positive directions and activities for educators. Initially it suggests students need to encounter a wider variety of contexts and uses for literacy. Since most high school students spend less time reading than most adults in the workforce, increasing and broadening school reading demands seems both desirable and possible. In addition, the non-school community (i.e., the family, churches, clubs, social service organizations, government agencies) can be encouraged and supported to play larger roles in the literacy instruction of children and adults. With some guidance and direction, instruction can occur almost naturally as literacy is taught in the process of teaching tasks related to ordinary performance in these institutions. Teaching of literacy in a functional context, where it will be immediately understood, used, and practiced, is an especially effective instructional approach.

Instructors of all sorts can benefit from paying attention to how literacy is actually used within productive social networks. For example, literacy is often used in group solutions to problems. It may be that teaching students how to ask questions of peers or how to behave fairly in turn-taking and returning favors may be as important to actual literacy functioning as teaching decoding skills. Using small groups of instructors and peers has been offered as a means for teaching both literacy and social context. Harman (1984) noted that the most effective

learning occurs when learning experiences are in distinct units relating to immediate concerns, perceptions, and motivations. Reder (1985) has developed a theoretical framework for such informal literacy training strategies in his Giving Literacy Away monograph.

Since literacy is so inextricably intertwined with social contexts, literacy decisions almost inevitably become political and social decisions. To politically achieve a society where a maximum number of individuals have access to information and the means to productively participate implies a massive integration of informal and formal education into most aspects of our society. Harman (1984) has noted that the high U.S. incidence of functional illiteracy probably reflects more the nation's high degree of cultural pluralism than the failure of schools. In a pluralistic society, it is desirable for individuals to be able to move easily from one cultural setting to others. This suggests more training for job-specific literacy in the workplace. It suggests training parents in how to help their children and it suggests providing guidance to adults in most of our institutions in how to help their less literate peers. We need to become more effective in teaching each other how to make transitions to meet new literacy demands.

Extremely destructive social and family settings need to be very carefully examined with an eye toward education that liberates individuals. Programs that teach literacy to children and their parents at the same time are examples of educational

approaches designed to change social networks. Some state programs designed to remove gang members from gangs and resocialize them in forestry programs may be another example of preparing individuals to make the transition into more productive society. There are still more extreme examples of proposed programs designed to force individuals out of counterproductive cycles of dependency. Controversial aspects of such programs are required literacy levels for parole from prison and required literacy education in order for low literates to receive federal or state support.

It is with extreme caution that this author even suggest non-voluntary programs, however. Since differences in literacy abilities in the United States break clearly along racial and ethnic lines, there is a potential for prejudice, paternalism, and unwarranted invasion of privacy to hold sway. To not address the issue of counterproductive social networks, however, is to ignore a key aspect of literacy problems. In recognition of this delicate and dangerous situation, all non-voluntary programs attempting to change people's lives with the goal of increasing literacy and personal opportunity need to be recognized as being political in the extreme sense of the word. As political programs, they need to be carefully monitored to ensure that avenues of participation and standards of human dignity are being maintained.

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Literacy for What Purpose?

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A paper presented at Towards Defining Literacy
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In response to Literacy for What Purpose?
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(Note: References to Mikulecky in this paper refer to Dr. Mikulecky's paper for this symposium)

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Literacy for What Purpose?

Dr. Mikulecky has done an excellent job of discussing the functions and purposes of literacy, particularly in relation to individuals and their social contexts. What emerges is not a static list of purposes and functions, but rather a way of thinking about this issue that will continue to be useful even as the characteristics of specific social contexts changes. This framework posits literacy functions as culturally relative -- it respects the differences in literacy use among cultural groups and acknowledges the role that the concrete social situation plays in an adult's assessment of literacy needs, as well as its relationship to effective instruction. At the same time, however, the analysis is embedded in a clearly normative framework in which literacy is identified as desirable by the dominant group in our society. It is this tension that I would like to explore in my respondent's comments.

Mikulecky asserts that, "Since literacy is so inextricably intertwined with social contexts, literacy decisions almost inevitably become political and social decisions" (p. 10). Indeed, literacy always has been political -- choices about who reads and what they read and how they use what they read always have been connected to the distribution of power in a society (Goody and Watt, 1968). The literate majority, secure in its position of dominance, partially attributes its success to literacy, and guards entrance into literate domains (Hunter and Harman, 1979).

The societal purposes and functions ascribed to literacy historically have been complex but basically stable, although the nature of literacy itself is historically relative. For at least the

last four hundred years, reading has been viewed as a moral imperative, connected to spiritual salvation and, of course, functioning as a mode of social control. Literacy's possession or absence has been an indicator of progress in moral training and, therefore, of the extent to which one was "civilized" or, as we would say today, "socialized" (Graff, 1979). Literacy tests for voter registration -- which were maintained into the mid-twentieth century -- kept people disenfranchised, cut off from having a voice in their own government in the name of the greater social good. Economic ideology now is substituted for church ideology, but the inability to use reading and writing skills in daily life continues to be equated with a more generalized inability to lead productive lives as citizens, family members and workers, although, as Mikulecky asserts, we have learned that such depictions are inappropriate and inaccurate.

The contemporary line of reasoning claims that we are moving into an "Information Age" in which technological competence is central and mobility essential. Workplaces will have to be able to change quickly to accommodate new technologies in order to remain competitive, and literacy is necessary both for learning and doing these new jobs (Hudson Institute, 1987). Furthermore, it is argued, the number of jobs that require no or low level literacy skills is declining and will continue to decline (Hudson Institute, 1987). In this scenario, illiterate adults, unable to work in these workplaces of the future, keep America from ascending to the top of the new global order; furthermore, by being unemployable even in the lower level jobs, they are viewed as a double drag on the economy and a threat to national security. Most obviously, these arguments ignore the realities of social class and social structure; they also ignore the complex web of

forces contributing to the United States' present economic problems and they deny the dignity of illiterate adults.

The connection established between literacy and economic development provides the framework within which we see the current attention to literacy education. It is claimed that the lowest level of jobs is in the process of shifting and that literacy is necessary, not for social mobility, but for basic, entry-level employment. This push is not about "empowerment" of people who are poor and disenfranchised; it is about maintaining the present distribution of wealth and power in America and, even more, across the planet. The purpose of literacy in this scenario is to enable adults to fit into the existing niches in the workplace.

I suggest that there is a profound ambivalence in our nation when it comes to adult literacy education; it is connected to the potential social and political consequences of universal literacy. Universal literacy now is perceived as a necessity -- which undermines literacy as a tool of the power elite and threatens that very power base. Thus, a dilemma is posed: persons who have been in positions of powerlessness are the focus of efforts to provide them with tools that provide access to power -- if only functional power by virtue of their now being able to do things they could not do previously. But nobody is talking about a redistribution of power. Furthermore, literacy scholars are claiming that the key to successful literacy education lies in the inherent characteristics and strengths of existing communities -- in many ways, the very places that are deemed to be "causing" the problems in the first place!

Mikulecky's discussion of problems with transfer of literacy skills across contexts achieves a special significance here. To

discuss the purposes of literacy as culturally relative is to recognize that, on a larger societal level, literacy practices (and functions) distinguish among cultural groups; Mikulecky points to the potential for "literacy being used inappropriately for discrimination and gate-keeping" (p. 7). Narrowly conceived literacy programs in which adults only are prepared for the literacy demands of highly specific job functions is one way of maintaining the gate-keeping function of literacy while responding to the need for new literacy skills in a particular context. As experience with a broader range of literacy practices is provided, adults appear to have a greater possibility for mobility and transfer of skills and, therefore, for greater self-determination (Scribner and Cole, 1981). As Mikulecky suggests, providing for this broad experience cannot be the province of any one organization; attention to the development of literacy must be infused throughout the society and we all must share some sense of responsibility for "helping our less literate peers," as Mikulecky (p. 10) describes.

Respect for the functions and purposes of literacy as socially situated deals with the question of "what is;" it sidesteps the question of "what should be." Analysis in terms of functional context does not necessarily provide a vision of the "ideal" to which we aspire as a society or to which individuals or cultural groups might aspire. Educational approaches designed to change social contexts or networks, whether they are voluntary or nonvoluntary, imply an ideal against which the present situation has been judged and found lacking. That ideal may be viewed as a reflection of the functions of literacy among the dominant power group in the society, regardless of the cultural relativism that may be implicit in specific approaches to

program and curriculum.

Therefore, I would like to add to Dr. Mikulecky's recommendations. First, we must add another dimension to the current attention to learning how to learn: we must learn how to be teachers as well -- how to share our learning with others. Learning and teaching -- including literacy development -- are social activities that occur naturally in many settings: these processes should be supported and assisted. In addition, we must characterize the purposes of literacy on at least two levels. One is the level of functional context for an individual or for a specific group. However, we also must analyze function and purpose as they are revealed at a societal level through mechanisms such as social policy. This provides insight into the reasons why we care about literacy levels and a check against the kind of paternalism and discrimination of which Mikulecky warns us.

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Measuring Adult Literacy

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Measuring Adult Literacy

In 1985, The National Assessment of Educational Progress (NAEP) received federal funds to develop and conduct a literacy assessment of young adults. This assessment was the latest in a series of national performance surveys conducted since 1970 that have focused on the issue of adult literacy. As such, it continued along a road paved by these earlier efforts while also attempting to cut new paths based on recent theoretical frameworks, research findings, and new testing and assessment technologies.

Each of the earlier surveys focusing on adult literacy provided information that was used to inform public debate and to help policy makers and educators make the best decisions on ways to help improve the literacy skills of our citizens. However, these surveys did more than contribute information for use in making informed decisions; they also helped to frame the literacy problem for America. This is an important function because the way one goes about setting a problem has a strong influence on the procedures adopted for addressing the problem.

To understand how the NAEP assessment fits into this set of surveys and how it contributes to the ongoing discussions about adult literacy, this paper will briefly describe three approaches used to assess literacy in this country. For discussion purposes, these are referred to as: the traditional approach, the competency-based approach, and the profiles approach. In presenting the information in this way, this paper will show how the various approaches to measuring literacy build upon each other, how they carry different assumptions about the nature of literacy, and how they vary in the kinds of information that they yield. Before discussing these approaches, however, it will be helpful to look backward and set a context for literacy assesment in this country.

Setting a Context for Literacy Assessment

Historically, we as a nation have put a high premium on literacy skills as they affect both individual well being and society at large. During the last century, literacy has taken on even greater importance as we moved from a predominantly agrarian to an industrial society (Cremin, 1970; Olson, 1975). It was during this transition that our nation needed to provide large numbers of individuals who had a core set of skills and knowledge to meet the changing societal needs. The introduction of compulsory education served to fill this need and literacy became the primary tool for learning. However, not only has literacy been increasingly important for increasing numbers of individuals, but the level of literacy skill needed to fully participate in society has also increased during this period (Chall, 1983; Resnick & Resnick, 1977).

As recently as the 1970's, literacy was broadly conceived of as a "right" of all citizens -- as witness the Right to Read movement which

reflected the priorities of our nation to ensure that every person reaching adulthood would be able to participate in the full range of literacy activities (Carroll & Chall, 1975). More recently, literacy has been conceived of not only as a right but also as an obligation. In 1983, President Reagan announced that the federal government was joining with other public and private groups in a nationwide Adult Literacy Initiative and stated that, "If we're to renew our economy, protect our freedom, we must sharpen the skills of every American mind and enlarge the potential of every American life. Unfortunately, the hidden problem of adult illiteracy holds back too many of our citizens, and as a nation, we, too, pay a price."

In America, interest in collecting data on adult illiteracy dates back to the mid 1800's when the Census Bureau began collecting information on self-reported literacy rates. Beginning in 1840, the Census asked people whether or not they could read or write a simple message (Stedman & Kaestle, 1986). At that point in our history, as the Industrial Revoulution was well under way and as compulsory schooling was becoming a major concern, it made sense to ask, "What is the number of illiterate people in America?" because there were large numbers of individuals who had not reached even these most simple criteria. By the 1920's, Census figures showed that self-reported literacy rates for Blacks had risen from a low of 19 percent to around 77 percent . For foreign-born Whites, the literacy rate was around 87%, while for native-born Whites it was over 96 percent (Venezky, Kaestle, & Sum, 1987).

Two factors arose at this time in our society that set the stage for a shift away from reliance on self-reported literacy rates toward measures based on demonstrated performance. First, widespread failure of Army recruits on World War I classification tests led many to question the validity of the self-reported literacy rates published by the Census. In addition, policy makers and reading specialists began to talk about the large numbers of people in America who could read in a technical sense but who either did not read very well or who did not read very much (Buswell, 1937; Gray, 1933). Second, there was a growing excitement about the potential of standardized testing for education. In addition to selecting and sorting individuals, educational measurement was promoted as a means for diagnosing specific learning deficiencies, describing particular learner achievements, and measuring program outcomes (Buros, 1977).

The Traditional Approach

As noted above, the growing concern over the inadequacy of self-reported literacy rates coupled with the growing optimism for educational measurement marked the point in our history when people began equating "functional literacy" with the attainment of certain grade-level scores on standardized tests of reading achievement. With these tests it was possible to determine percentages of various populations performing at or above specified reading grade levels.

Persons estimated to be performing at or above these levels were considered to have adequate reading skills necessary to perform on materials or tasks judged to be of comparable grade-level difficulty. Those persons failing to perform at or above these specified levels were labeled "illiterate" or "functionally illiterate" and were presumed to lack the necessary reading skills needed to function in our society.

Among other things, the focus on reading grade-level scores served to shift literacy discussions away from levels associated with learning to read and more toward the skills and knowledge that have come to be associated with reading to learn. Over the last sixty years or so of testing, the criteria used to judge adequate levels of reading skill has risen steadily from a third-grade level to an eighth-grade level (Stedman & Kaestle, 1986). Some have even called for a twelfth-grade reading level as being necessary to function in a technological society (Carroll & Chall, 1975).

The practice of using grade-level scores to understand the literacy problems facing adults in this country carries with it certain assumptions and limitations. Grade-level scores are usually determined from the average performance of an in-school norming sample over a particular set of reading passages and multiple-choice questions. These samples typically comprise children of various ages and grades attending schools throughout the country. Thus, a grade-level score of 4.5 represents the average performance of children tested in the fifth month of the fourth grade. Similarly, a score of 9.0 represents the average performance of children at the beginning of the ninth grade. Given this, and the fact that reading is assumed to be normally distributed in the population, by definition half of the students will score below grade level for the year of school they have just completed. This means that no matter how good the instruction, half of any nationally representative sample will score below their respective grade level.

Another factor contributing to performance on standardized reading tests is the manner in which reading tasks are selected into a given test. Typically, selection is based on item statistics which were designed to yield tests which maximally differentiate among individuals. While these procedures are suitable for producing reliable and valid tests for the purposes of sorting and selecting individuals, they have proven less usefull for purposes of instructional placement, diagnosing specific deficiencies, and for certifying specific competencies (Cross & Paris, 1987; Haertel, 1985). Yet these are the very functions these measures have been employed to serve for adults.

In additon to the above, many people have come to recognize two other concerns associated with using grade-level scores with adults. First, research has shown that the literacy materials adults encounter in various nonschool contexts go beyond the type of materials typically associated with standardized tests of reading (Heath, 1980;

Jacob, 1982; Kirsch & Guthrie, 1984a; Mikulecky, 1982; Venezky, 1982). As a result performance on these measures are often not good predictors of performance on literacy tasks associated with nonschool settings. For example, Kirsch & Guthrie (1984b) have shown that the relationship between tasks measuring text search and prose comprehension share only about 10% of the variance while time spent engaged with each of these types of tasks account for 32% and 45% of the variance, respectively. In addition, Sticht (1982) has reported that marginally literate adults enrolled in a job-related literacy program make about twice the gain in performance on job-related reading tasks than on tasks typically found on standardized reading tests.

Second, grade-level scores represent the average performance of students functioning within a particular school context and, thus, reflect much more than simply reading achievement. Interpretation of adult performance on such a scale should be quite different from that of a child. Just as a fourth grader scoring at an eleventh-grade level on a test of reading achievement is very different from a tenth- or eleventh-grade student scoring at this level, so is an adult scoring at an eighth-grade level very different from a seventh- or eighth-grade student demonstrating this level of reading achievement.

The Competency Based Approach

As a result of these concerns, researchers began to recognize that measures of adult literacy could not be limited to a single grade-level score determined by children's performance on school-based tasks. During the 1970's, national performance surveys such as those conducted by Louis Harris and Associates (1970,1971), Educational Testing Service (Murphy 1973), and the National Assessment of Educational Progress (1972,1976) attempted to go beyond school-related reading tasks by including a broader range of materials that adults are likely to encounter at home, at work, or while traveling or shopping within their community. Representing the most publicized of these national surveys is the Adult Performance Level Project (APL) (Northcutt, 1975). The APL project measured in addition to reading and writing skills, computation, problem solving, and interpersonal skills as they interact with the areas of occupational knowledge, consumer economics, health, and law.

For each of these surveys, nonschool types of materials were sampled and used to develop tasks which were field-tested and then administered to various national samples. By analyzing responses made to these tasks, researchers could estimate the proportion of the adult population that could perform such tasks successfully; they could also determine the extent to which various background characteristics, such as educational level, race, geneder, and income level relate to these various percentages. Thus by measuring literacy based on materials actually associated with adult contexts, researchers attempted to produce information based on adult materials. It was believed that

this type of information would better inform policymakers and educators as to the adult literacy problem in this country.

While these approaches to assessing adult literacy represent a significant improvement over traditional school-based measures of reading achievement, they also share some of the same assumptions and limitations. First, like traditional measures, the researchers who conducted these surveys made no attempt to analyze the tasks or to determine what factors contributed to task difficulty. Without efforts to understand how particular types of questions interact with various materials to affect processing demands, it is difficult to determine the construct representation associated with a given instrument. Yet it is precisely this type of information that is critical in identifying and validating a theory which systematically relates a set of psychological processes to a set of operational characteristics that condition these processes in predictable ways. Without such information, there is no basis for assuming that measurement instruments being used to evaluate program effectiveness, to determine learner competencies, or to develop instructional programs are focusing on the same or even highly similar constructs (Rosenthal & Kirsch, 1987).

Second, with the exception of the Adult Functional Reading Survey (Murphy, 1973) which only reported the percentages of adults who responded correctly to each task, the national performance surveys summed across items to yield a single score that was reported to the public. Thus, like the traditional approach, these surveys treated literacy as an ability that lies along a single continuum with scores indicating the various amounts of this trait an individual or group exhibits. Moreover, a single point was selected below which people were classified as either "illiterate" or functionally illiterate". Reviews of these surveys pointed to the fact that the estimates of "illiteracy" or "functional illiteracy" varied as widely as the measures themselves, ranging from about 13% to about 50% (Kirsch & Guthrie, 1977-78, Fisher, 1977). While debates ensued as to the accuracy of these estimates and the utility of a single cutpoint, critics pointed to the varying definitions, the different cutpoints used, and various types of tasks adults were asked to respond to as a basis of noncomparability of these results.

The Profiles Approach

When NAEP began to design its literacy assessment of young adults, the idea was to extend the work undertaken in earlier surveys which had shifted the focus from the traditional approach to the competency-based approach. The assessment took from this latter approach its focus on "real world" materials. In additon, based on a growing body of research (Heath, 1980; Mikulecky, 1982; Kirsch & Guthrie, 1984a; Sticht, 1978), the assessment then identified a range of uses or purposes that adults have for reading these various materials. The resulting interaction between uses and materials served as the

framework for developing tasks that correspond to the various levels and types of information processing demands associated with various adult environments.

Furthermore, the NAEP assessment was not constrained by imposing an artificial set of response requirements on these tasks, as happens with multiple choice items. Rather, in most instances, tasks required respondents to perform in ways that simulated procedures found in actual occurrences of these tasks in various settings. Examples of this included: reading and responding to editorials, news stories, and classified listings in a newspaper; writing a letter to a credit department; orally explaining the differences in two types of job benefits; completing a bank deposit slip; writing a check and keeping a running balance in a check ledger; and, filling in a form to order merchandise from a catalogue. Moreover, the criteria used to judge the appropriateness of a response was based on the actual criteria for defining adequacy in those real world contexts. For example, banks were consulted to determine criteria for accepting or rejecting a customer-completed deposit slip and check. In sum these efforts were undertaken in the attempt to maintain the integrity of as many aspects of the literacy tasks as possible.

Given the complexity and diversity among literacy tasks in our society, it was deemed inappropriate to attempt to categorize individuals or groups as either literate or illiterate. An approach was sought that recognized the fact that there is a broad range of proficiency levels at which people are neither totally illiterate nor fully literate to the extent that they can successfully deal with many of society's more challenging tasks. In additon, it was expected that the wide variety of activities associated with using printed or written materials was likely to require different types of literacy skills. Therefore, attempts were made to analyze and report the data in such a way as to provide a means for understanding the various types and levels of literacy exhibited within our society. It was thought that such an approach would provide a more accurate representation not only of the complex nature of literacy demands within a pluralistic society, but also of the status of people functioning in our society.

Based upon statistical and conceptual analyses (Kirsch & Jungeblut, 1986), NAEP chose to represent the diverse set of some 100 tasks in terms of three categories or families of tasks: prose tasks; document tasks, and quantitative tasks. Prose literacy tasks required the reader to demonstrate the knowledge and skills associated with understanding and using information from texts that include editorials, news stories, poems, and the like. Document literacy tasks required readers to demonstrate the knowledge and skills associated with locating and using information contained in job applications or payroll forms, bus schedules, maps, tables, indexes, and so forth. Finally, the quantitative tasks required the reader to perform different arithmetical operations, either alone or sequentially with information that was embedded in either prose or

document formats. Included here were such tasks as entering cash and checks onto a deposit slip, balancing a checkbook, completing an order form, or determining the amount of interest from a loan advertisement.

Tasks representative of these three types of literacy were scaled using item response theory (IRT) methodology. IRT is a mathematical model for estimating the probability that a person will respond correctly to a particular task. To determine this probability, analyses within a given scale were carried out in two steps: First, the parameters of the tasks were estimated. For NAEP, these include item discrimination, item difficulty, and where appropriate, guessing. Second, levels of proficiency were estimated for individuals and groups. The former provides a criterion-refrenced interpretation of various points along the scale, while the latter provides information yielding norm-referenced interpretations.

By estimating proficiency levels on scales constructed to range from 0-500, NAEP was able to describe and compare the distributions of various groups of interest -- the total population; white, black, and hispanic young adults; as well as several levels of educational attainment. For example, with this type of information comparative statements such as the following could be made. While 57% of the total population reach or surpass the 300 level on the prose scale, only 12% and 25% of persons with 8 or fewer years of education and with 9-12 years of education, respectively, attain or surpass this level. For those who report earning a high school diploma but no certificate beyond that level, nearly all attain the 150 level, approximately two-thirds are estimated to reach or surpass the 275 level, while only 3% are estimated to reach the 375 level.

Examining and comparing groups of young adults who have attained various levels of proficiency and relating these levels to various background characteristics furthers our understanding as to the extent of the literacy problems facing this population. As such, the NAEP assessment provides information that goes beyond previous reports that focused on dividing the population into two groups.

In additon to providing norm-referneced interpretations such as those above, IRT provides a means for making criterion-referenced interpretations. Within each scale, tasks were ordered based on the estimates of the task's parameters. By ordering tasks on each of the three literacy scales, NAEP was able to identify those tasks within a scale that were estimated to be at similar levels and those tasks that were estimated to be at relatively higher or lower levels. For example, on the document scale several tasks were estimated to be around the 200 level. These included: entering personal information on a job application, locating a movie in a television listing, and matching items on a shopping list to a set of store coupons. At higher levels, tasks included locating information on a pay stub (257), using an index from an almanac (278), and following directions for traveling from one location to another using a map (300).

However useful this information is, it was felt that additional supplementary information needed to be provided to extend our understanding of what it means to perform at various levels on each of the scales. NEAP accomplished this by selecting benchmark tasks along each of the scales and identifying variables that seemed to be related to the underlying constructs reflecting task complexity. For example, on the document scale, three variables were identified. These were: the number of features or categories of information in the question or directive that had to be matched to information in the document; the degree to which the wording in the question or directive corresponded to that in the document; and the number of distractors or plausible correct answers in the document.

At the simplest levels of complexity, document tasks included signing one's name on a social security card, locating the expiration date on a driver's license, and locating the date and time of a meeting from a form. Each of the tasks at this level of difficulty involved matching a single feature or category of information (e.g. one's name) with information in the document (e.g. the word signature followed by a blank line). Almost all (98%) young adults were estimated to be performing at this level of proficiency.

At a higher level of complexity, document tasks required readers to match information on the basis of two features from documents containing several distractors or plausible answers. On such task involved locating a particular intersection on a street map; another involved locating the gross pay for year-to-date on a pay stub. Approximately 84% of young adults were estimated to have reached or surpassed this level.

Tasks at a third level of complexity required readers to match information on the basis of increasing numbers of features or categories. In some cases, these matches were literal, while in others they were based on information that was stated one way in the question and another in the document. Also common at these levels was an increase in the number of distractors contained in the document. Examples of tasks having these characteristics included: looking up the appropriate kind of sandpaper to use from a chart depicting various types of use, grades, and, materials to be sanded; and identifying information contained in a graph showing sources of energy, years of consumption, and percentage of use by energy type. Only 20% of young adults were estimated to have attained this level of proficiency.

In sum, the NAEP assessment derived two major benefits from using IRT methodology: it enhanced the comparability of results across groups, age, and time, and it provided a basis for relating background and attitude variables to levels of proficiency (Messick, Beaton, & Lord, 1983). In additon, moving from a single comprehensive literacy scale to multiple scales extends our understanding of the construct of literacy by providing one means for describing its multi-faceted nature. That is, the implementation of multiple scales makes explicit

an organizing framework for capturing in a useful way the diversity of tasks that have heretofore been reported in terms of a single score (Mafziger, Thompson, Hiscox, & Owen, 1975). Moreover, the process of anchoring various levels on each of the literacy scales takes us one step further in our understanding of the constructs being assessed. It is through the identification of these variables that one comes to better understand the meaning of the proficiency scores reported (Messick, 1987) and the nature of the literacy problems facing America. It is the difficulties individuals have with employing these skills and strategies that characterizes the literacy problem for much of the young adult population, not "illiteracy" or the inability to decode print or comprehend simple textual materials.

Next Steps

The theoretical framework selected for the NAEP adult literacy assessment enables a program of research that is expected to serve two important functions: first, enhanced understanding that will lead to the development of new assessment tasks having known properties and, second, a foundation for the development of instructional modules that are closely associated with the NAEP literacy assessment instruments and that reflect their underlying theoretical constructs.

The anchoring process conducted by NAEP demonstrated that tasks fall along a scale not soley as a reflection of the characteristics of the document but as a result of the interaction between the document and the level and type of operation required in the question or directive. However, these latter variables were identified only for selected benchmark tasks and were not subjected to validation studies.

One study currently underway at ETS seeks to identify and validate sets of variables that relate in hypothesized ways to the constructs that underlie performance on each of the simulation tasks on the three NAEP literacy scales. This study explores both the structure and content of the printed stimulus materials as well as the structure and content of the question(s) or directives(s) about the printed material. As these structural and content variables are identified, their interrelationships will be examined.

These results will allow us to represent specific models of variables relating to constructs underlying literacy performance and to implement procedures to determine the extent to which these variables account for variance associated with performance on each of the defined literacy scales (Embretson, 1983; Mitchell, 1983). An important issue in addressing the validity of the resulting models is to demonstrate the extent to which they account for variance not only for the total population but for variance in particular subgroups as well.

The focus here is on the identification and validation of "ideal reader" models of the ways in which adults successfully complete

simulation tasks representing different levels of literacy proficiency on each of the three NAEP scales. To complement and extend this work, a study is planned to identify and explain the kinds of errors made on particular types of literacy tasks. Using a sample of young adults with differing background characteristics and different demonstrated literacy proficiencies, incorrect responses to the literacy tasks will be analyzed and evaluated against the ideal reader models. The process of analyzing and evaluating errors will serve to capture inappropriate processing strategies as well as misconceptions common to various levels of proficiency that may also characterize the performance of particular subgroups (i.e., differing levels of educational attainment or differing employment status). As a result, new tasks can be configured to reflect the types of prototypical errors demonstrated. As difficulties readers encounter in completing these simulation tasks are identified, appropriate procedural routines for successful completion of the tasks will be modeled.

Conclusions

This paper has tried to decribe the various ways this country has approached measuring literacy skills. In presenting this informaiton, it was shown how each of the various approaches utilized existing knowledge and technologies to provide program planners and educators with useful information. As the latest in a series of surveys, the NAEP assessment was able to benefit from the most recent research information and measurement technologies. In contrast to other approaches which characterize literacy as either a single skill that is suitable to all types of texts, or as an almost infinite number of competencies, each defined by a given type of text or document, the NAEP assessment demonstrates that there may well be an ordered set of skills and strategies that are called in to play to accomplish the range and types of tasks assessed. As such, the NAEP assessment attempted to frame the literacy problem in this country in terms of the types and levels of literacy achieved rather than in terms of the number of illiterates.

In addition, this paper has described an ongoing research program which attempts to build on the foundation provided by the NAEP assessment. Such systematic efforts are important because they seek through careful examination and experimentation to understand the underlying skills and strategies needed to successfully deal with literacy tasks common to various adult contexts. With such an understanding, it is hoped that more efficient and effective education and training programs can be developed. Without improvements that may result from such efforts, it is possible that with the projected increase in the percentage of poor, low-achieving minorities and the rise in literacy demands, our workerforce by the end of this century could be be less literate our society more divided along racial and socioeconomic lines.

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Measuring Adult Literacy:
Response to the paper by Irwin Kirsch

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In his paper Kirsch provides a succinct overview of the approaches that have been taken to indicate the state of development among adults in the United States over the past 70 years (World War I to the present). He provides a rationale for the most recent assessment of adult literacy skills by the National Assessment of Educational Progress (NAEP). And he provides a brief insight into additional studies he and his colleagues are pursing "that will lead to the development of new assessment tasks having known properties" and which will provide "a foundation for the development of instructional modules that are closely associated with the NAEP assessment instruments and that reflect their underlying theoretical constructs."

In passing on to my main comments, let me note that the task of producing instructional modules "closely associated with the NAEP assessment instruments" represents a significant departure from past activities associated with the NAEP assessment and suggests that curriculum might be very directly "driven by the NAEP test to produce improved performance on NAEP items," which could be construed as a form of "teaching to the test," an

activity that has been avoided in previous NAEP assessments of either school-aged children or adults. This type of close-coupling of NAEP test items and school curriculum has been a concern of many in the past who have feared a federally-developed, nationally standardized school curriculum similar to many of those in other countries. It is interesting that such concern might not extend to "remedial" instruction for adults.

My comments on Kirsch's paper are concerned with two questions: What is the purpose of measuring adult literacy? How should such measurement be accomplished?

Why Measure Adult Literacy?

In September, 1985, Secretary of Education William J. Bennett, in a speech about plans for the future of the NAEP, commented that, "Fundamentally, we all use assessment-type data for diagnostic purposes, so that we can know how we are doing, where we are succeeding up to our aspirations and where we are falling short, in order to strengthen our ability to provide every child with an opportunity to achieve educational excellence." The Secretary also stated that "NAEP should develop an index of "functional literacy" that is consistent over time and applicable to the adult population as well as to children of school age. NAEP should then employ a fixed schedule (once every decade, perhaps, like the Census) by which it uses this index to

assess literacy and illiteracy in the nation as a whole."

Putting these concerns of the Secretary of Education together, we might conclude that one purpose of an assessment of adult literacy is to see how well we are doing in developing the literacy skills of children as they grow up to become adults. A measure of "functional" literacy, administered as children progress through the school grades would show how the children's "functional" literacy skills are developing over time and how such development culminates in the performance of adults. And, presumably, "functional" literacy would be distinguished from "non-functional" literacy. If not, then there is no need for the modifier of literacy.

In using standardized tests that are normed on grade school children to assess adult literacy skills in terms of "reading grade levels," the domain of literacy assessed is considered to represent non-functional, "academic" literacy. But, in many cases, use is made of the grade level to indicate "functional" literacy, too. For instance, many programs consider that adults reading below the 5.0 grade level (i.e., at the 4th grade or below) are not "functionally" literate. Thus, there is not a complete separation of "functional" and "academic" literacy in terms of separate domains of knowledge or task performance.

But ignoring the conceptual problem of distinguishing

"functional" from "non-functional, academic" literacy, use of school-based tests to assess adult literacy achievement does provide a developmental picture consistent with the notion that adult literacy achievement is the result of an educational process in which this nation places huge amounts of fiscal, material, and human resources. But the tests are based upon the children's school grades, and the content and process demands of the tests reflect the knowledge and thought processes that the schools aim to develop. The outcome of 12 years of education is supposed to be the educated, literate adult. In that case, the aim of adult literacy assessment should be to find out how well adults have acquired the literacy that the schools aim to develop. To assess the adults in "functional" literacy that is not the specific aim of the schools does not reflect properly what the schools have accomplished.

But it turns out that, despite some claims to the contrary, if students do, in fact, acquire the academic literacy skills taught in the schools, as they are assessed by traditional, standardized, norm-referenced literacy tests, they are generally able to perform any number of "functional" literacy tests quite well, including many job-related reading tasks (Sticht, 1975). In fact, correlations among "academic" and job-related, "functional" literacy tests have been found above .75 for various tests.

Such tests also correlate at near maximal levels, given

their typical reliability coefficients, with tests such as the Armed Forces Qualification Test (AFQT) and various tests of verbal intelligence. Because of these significant relationships, there is much to be learned from the use of grade-school normed literacy tests with adults. Such tests reveal differences among the adult population that can be of use not only for indicating how well we are doing in promoting achievement over the school years, but also in making predictions about which adults will learn well in future education and training programs in certain settings.

But one of the things that standardized, grade-school-normed tests are not useful for with adults is to match them to an instructional program. That is because the adults are no longer in the K-12 school system, and the immediate and pressing needs they have for learning will generally be different from those of children who are progressing through the grade school. Unfortunately, this is precisely the major use of such tests that is made in most adult literacy programs. For this reason, there have been numerous criticisms of the use of grade-level-referenced tests with adults, along the lines drawn by Kirsch in his paper. His points are well taken in this regard, and I will not elaborate on them.

My main point in this section is that the purpose for which adult literacy is being measured should influence how it will be

measured. In this regard, I note that standardized, school-based tests may provide useful information about adult literacy, and should not be dismissed categorically. Further, it may be possible to develop even better school-based tests, using item response theory, to indicate growth over the school years and into adulthood. It should be noted that, for children in academic settings, "academic" literacy is "functional" literacy. And for adults who hope to gain a GED high-school equivalency, or qualify for college, or some other education and training program, "academic" literacy is "functional" literacy.

In addition to school-referenced tests, adult-oriented tests that indicate the state of adult literacy without reference to a particular schooling background are useful for assessing the skills of adults who have migrated into the nation. The results of such tests with new citizens or citizens-to-be should not, of course, be interpreted to reflect on the adequacy of the nation's K-12 school system. Such tests might be norm-referenced if the purpose is to discriminate among adults for some screening purpose (such as with the AFQT literacy test). They might be based on the broad categories of the new NAEP for adults (Prose; Document; Quantitative) if the purpose is to characterize the state of literacy in such general terms at a national level. And they might be competency-based if the purpose is to assess the learning of very specific curriculum material.

How to Measure Adult Literacy?

If we wish to assess adult literacy as a means of evaluating the effectiveness of the K-12 school system we should consider this from an "achievement" test perspective. If we wish to assess adult literacy to predict whether or not adults in the United States can perform the myriad literacy tasks that might be encountered, then we should think about this from an "aptitude" test perspective.

From an achievement perspective, we ask what it is the person has achieved by way of knowledge, ability to comprehend and express knowledge using the written language, and ability to reason about information using written language and graphic devices such as charts, forms, and so forth. In the current NAEP literacy tests for adults, knowledge of content areas is not assessed (with the exception of some mathematics in the quantitative scale). Rather the focus is upon formats (prose; documents) and complexty of information processing. Knowledge of vocabulary from domains such as science, history, English literature, vocational and industrial arts, and creative arts is not assessed. Yet this is much of what the schools aim to impart as the knowledge base upon which the literacy skills of reading and writing operate.

It seems to me that if we wish to assess how well adults have achieved the knowledge that the K-12 system aims to impart, possession of such knowledge should be assessed. Additionally, an assessment should indicate how well adults can use the world of printed information to increase their knowledge over what they already know. For instance, if an adult could not answer a content question about the digestive tract from his or her own store of knowledge, what we would want to know regarding the person's literacy skills is whether or not, given an appropriate information source (like a book), the person's literacy skills permit him or her to acquire the needed information. Current literacy tests do not provide this kind of information about literacy skills.

In both the assessments of knowledge and literacy skills from the achievement perspective, the test tasks should be derived from an analysis of what is taught in schools. This way we can find out how well adults have learned what they are supposed to learn in school.

From the aptitude perspective we wish to know if the literacy skills adults possess are predictive of how well they can use literacy materials in some future (outside the test setting) situation, such as learning and/or performing a job. In the final analysis, the only way to know how well a person or group of persons who perform one way on a test will perform in

some future situation is to follow a predictive validity paradigm in which performance on the predictor test is related to performance on some criterion task. This has been done with such adult literacy tests as the Scholastic Aptitude Test (SAT) and the Armed Forces Qualification Test (AFQT). Presumably, this could be done to establish the validity of the present NAEP adult literacy tests for predicting functioning in future settings. In this regard, it would be expected that tests constructed from this aptitude perspective would more validly predict performance in situations outside the test setting if the literacy tasks on the predictor test were derived from the settings to which it is desireable to predict. Hence, the aptitude use of tests calls for different methods of test development and validation than used in the achievement approach.

How, then, should adult literacy be measured at the national level? I believe adult literacy should be measured in such a manner that we are able to accurately characterize how well adults have achieved in learning what the schools are teaching, and so that we have confidence in predicting how well the adults will be able to negotiate the demands for literacy in future settings. Though these may sound like common-sense goals, I do not think they have guided our past efforts as well as they might.

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Policy Implications of Literacy Definitions

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This paper raises some questions regarding the policy implications of literacy definitions. Since I could not make use of the definitions proposed by the previous speakers, I will rely on my own. I do not think this is a serious impediment since, as I try to show later, the different definitions have much in common.

Why is policy essential for defining and solving literacy problems? Perhaps the strongest reason is that literacy is not a natural phenomenon. We are not born with it. Most of us acquire it in schools, and in schools supported by public funds. This is sometimes overlooked in statements that the high or low literacy rates of this or that country can be attributed to its culture. While studies confirm that reading achievement is influenced by culture, social class, the literacy environment of the home, other studies find that what and how reading and writing are taught and learned in school make a profound difference in literacy achievement (Chall, 1986). This is a simple point, one that 3 out of 4 people on the street would agree with, one that most parents in developing countries would agree with, but one that too often escapes some educators and policy makers. Too often, when social class was found to be a stronger predictor than the types of schools the children attended, it was concluded that schools made little difference (Coleman, 1966; Jencks, 1972). Such a conclusion might have been drawn if some children had not attended school. Had a non-school group been compared to the school group, the non-school would be the lowest achievers. Indeed, studies that have looked into school versus non-school, or fewer years of schooling versus more years, have invariably found higher reading achievement and also higher cognitive

development for those having more schooling. (See, for example, standardization data of reading achievement tests.) Thus policy, with regard to improving literacy, ultimately must make provision for the amount of schooling considered essential. This means, of course, the need to provide the most effective teaching by professionally trained teachers and the most effective methods and materials for students in school who are acquiring literacy. It also means the provision of additional schooling for those who have failed to learn. Thus, it is unrealistic to hope that volunteers need have only "a degree of caring" to teach adults who have had a history of failure, unless these volunteers have been trained to teach, and are supervised by professionals. (See Chall, Heron, and Hilferty, in press.) To expect an amateur to succeed where professionals have failed assumes that literacy is acquired best through magic and goodwill.

The most essential policy for literacy is, to a great extent, already in effect -- free public education through the 12th grade. But while this policy has achieved its purpose for many, it has done very badly by others -- the poor, ethnic minorities, bi-linguals (particularly Hispanics) and those with learning disabilities. The early school dropouts come mainly from these groups. Their literacy problems are manifested early, and their difficulties cumulate and avalanche and result in early school leaving, and in such social problems as delinquency, drug addiction, teenage pregnancy, and unemployment.

Of course, one will say, some people are bound to fall into the lower end of the normal curve and no matter what improvements are made, there will always be a group on the bottom.

True. The best policy cannot undo the normal curve. But it can set a net below which no one must be allowed to fall -- unless there are handicaps that cannot be overcome. What should that net be today? What are the standards below which we put individuals and society at risk? How much literacy is required to live productively in a complex, post-industrial society — one that is information- and service-oriented? I have, in previous writings, proposed that a 12th grade reading level -- one that permits the reading of a wide variety of texts written in sophisticated, abstract language and that requires critical thinking and problem solving — is needed in a high tech world (Carroll and Chall, 1975). Since we provide a free education to all through the 12th grade, the task for policy should be how it can be achieved for all, or at least for more than we now achieve it. The national assessments for both school age students and young adults out of school indicate we have achieved this only with about 40 per cent of 17 year olds in school and with young adults out of school — but we achieve it with less than 20 per cent of minority students and young adults (NAEP, 1985 and 1986).

Thus, the adult literacy problem cannot be viewed apart from the literacy of school age students. If we do not wish to deal forever with adult illiteracy, we must look to where problems in literacy begin, how they can be detected and treated early, and, more importantly, how they can be prevented.

Policy, in essence, depends upon definitions of literacy as well as on standards considered essential for all. The definitions (or labels) in use now and in the past -- definitions that come from empirical data such

as NAEP, standardized tests, special adult literacy surveys -- represent points on a continuum. In spite of the different names given to these points, many of which seem to have been invented to avoid exposing the shame of the illiterate, and marginally literate, as well as our own shame, they all seem to boil down to a matter of more or less reading and writing achievement. Some definitions cover a wide band; others, a narrower one. Some include distinctions by types of reading matter, e.g., bus schedules, application forms, medicine labels, and newspaper articles. But, here, too, the greater differences stem from linguistic and cognitive complexity, rather than from the type. There are easier and harder application forms, and the New York Times article by Tom Wicker on the young adult survey of NAEP tests harder, not because it is an article, but because the language and ideas are less familiar and more complex (NAEP, 1986). I think it is useful to see all of the different definitions and scale points on a continuum of literacy, from least to most. This kind of continuum is essentially what the developers of standardized reading achievement tests and of readability measures have done. The standardized reading tests place readers on a developmental scale, and the readability formulas do so for texts (i.e., how much reading ability is required to read a text) on a scale of increasing linguistic and cognitive complexity. The points can be converted into qualitative categories (good, average, poor for students; easy, standard, hard for text) (Chall, 1958 and 1981; Klare, 1974-75).

For measuring reading ability, and readability, we have for more than a half century used the concept of grade level equivalents to represent points on the scale of development. It has become fashionable among

some researchers today to say that these grade level scores don't mean anything and are dysfunctional for teacher and child. This view is even stronger among adult literacy workers. When someone says the grade equivalent score is meaningless, I wonder if he would be happier to have his 3rd grader come home with a computer printout of 2.0 on the Metropolitan Achievement Test rather than a 4.0. Most parents would be happier to have 4.0 than a 2.0, and most know that a 4.0 is better.

True, the test did not evaluate the child's recreational reading, whether he reads for pleasure, or whether he loves or hates to read. But, unless the child or the school cheated, or he forgot to use his IBM pencil, the scores give a lot of information -- where the child is, the level of book he can read, etc. Indeed, the recent criticism that the grade levels of the tests do not coincide with readability levels is also based on little or no data. We have recently compared test scores with levels of books used for instruction and found high consistency.

Broader, qualitative distinctions do add to the strictly quantitative scales. Several years ago I proposed a scheme of six stages of reading development to give greater understanding of the qualitative changes in reading development. Table 1, from Chall (1983), presents a brief overview of the six stages, the typical school grade equivalents, and the qualitative changes in reading skills, language and thinking as the student progresses, and the "new learnings" at each successive stage.

I have since collapsed these six stages for planning adult literacy programs, and present them below, noting grade equivalents on standardized reading tests, the stage level from Chall (1983), and the descriptive

category from the NAEP scale (1985).

The lowest level is one below functional literacy, and includes adults who are completely illiterate to those who can read only the simplest labels, signs, and texts. This level includes those who score at 1st to 4th grade level on standardized achievement tests, or Chall's Stages 0 ("Prereading"), 1 ("Decoding") and 2 ("Fluency"), and the "Rudimentary" and "Basic" levels of NAEP.

The second level, often referred to as functional literacy, permits the reading of simple texts, e.g., a local newspaper or the easier articles in digest magazines, The Enquirer. On standardized achievement tests it covers 4th to 8th grade level; Stage 3 of Chall, "Reading to Learn the New"; NAEP, "Intermediate."

The third, advanced reading level permits the reading and learning from difficult materials — technical manuals in industry and the military, national newsmagazines such as Time and Newsweek. It covers the 9th to 12th grade equivalents on standardized reading tests; Chall, Stage 4, "Multiple Viewpoints"; and NAEP, "Adept." (See Chall, Heron and Hilferty, in press.)

I have so far emphasized one central question in social policy -- defining and measuring it. Overall, I think we know quite a lot here. The recent surveys and definitions can be a source of growing consensus. Further, although we need better tests for measuring adult literacy, I think we can still learn a lot from those we have.

The next central question, harder I think than that of measuring literacy in individuals and groups, is that of how much literacy is needed.

What are the literacy needs for today? I will divide needs into

three categories: civic, occupational, and personal.

Let us take the civic first. What literacy tasks are essential for citizens of our country? What must we all be able to read?

These questions are currently the subject of a lively debate set off by E.D. Hirsch's best-selling book, Cultural Literacy (1987), and particularly his list of essential terms that, he says, all Americans need to know. Many reject the list as class- and Western-biased.

Mortimer Adler makes our task simpler by stating emphatically on his many TV appearances that all Americans should read the founding documents — The Declaration of Independence, The Constitution of the United States, particularly the Preamble, and Lincoln's Gettysburg Address. These documents, he says, should be read, like the Bible, over and over again.

If Mortimer Adler's literacy tasks are accepted as essential, what level of literacy would be required? Table 2 presents estimates of difficulty from a readability and vocabulary analysis. From the table, we see that all of the documents are indeed difficult -- all requiring advanced literacy skills, with the Gettysburgh Address somewhat easier. Lest you think these figures are some kind of abracadabra, I invite you to look at Figure 1, containing two samples from the Constitution, and Figure 2, which contains words from these samples that are unfamiliar to 4th graders, with notations on the percentage of students in various grades who know their meanings.

All of the documents are difficult, whichever way you define difficulty and whichever way you measure it. To read them one must read well, on at least a high school level (Stage 4, "Multiple Viewpoints," of Chall; "Adept"

level of NAEP). They are difficult because the ideas and the words are difficult. To read and understand them requires an education, at least a high school education.

What about more modern, more practical civic literacy needs — those needed more for daily living, but still of civic importance? We could include, here, the reading of a newspaper, the reading of forms and instructions, e.g., federal and state income tax forms, instructions for applying for food stamps, notices from the telephone company, and the like. When these are analyzed or are tested on representative readers, one is shocked to learn how difficult they are, and how common it is for the difficulty level to be above the reading abilities of their intended readers. The many rather expensive attempts to simplify the income tax form and instructions have not yet been noticeably successful.

Let us turn to occupational literacy. How will we determine that? Sticht has shown us the way in his studies of literacy requirements in the military. He analyzed the readability of the instructional manuals for different jobs in relation to the reading abilities of men who needed to read them. Mikulecky made similar analyses for blue collar workers.

These materials are also harder than most of us think. Sticht (1975) found most technical manuals in the military to be written on an 11th-12th grade level. Only the cook's manual was lower -- on an 8th grade level. And Mikulecky found similar levels of difficulty among technical manuals used on blue collar jobs (1981).

We need such information on a wider range of occupations. Such information will be useful in guiding young people and adults with reading problem

in the selection of occupations. This information is also needed to alert writers of these materials to be as readable as is possible for the content covered.

What about personal needs? How literate does one have to be for the "pursuit of happiness"?

This is perhaps the most difficult of all to agree on, since most people do not read much, getting most of their entertainment and news from TV. But what about traffic and street signs and the print on medicine bottles, on food and drink packages? What about books? Should we all be able to read Dr. Seuss but not Dr. Kissinger?

Once we gain some consensus on these, they could help us make policy for adults who seek help in adult literacy programs. They will also help in planning for the literacy development of children and young people. At what age or grade should the various standards be reached? This is, I believe, one of the most important aspects of social and educational planning. Even for preschoolers, one must develop structural systems for judging whether progress is being made, and if not, to provide as soon as possible remediation necessary for continued progress. We need to apply to literacy development the same kinds of safety systems -- signalling, whistle blowing -- that are used to avert collisions in the air.

This brings me to my third point -- the importance of standards at various points of development -- not only ones for adults. In a sense, the schools have become more humane in recognizing individual differences. But in doing so too many children are falling through the cracks. They do less well than they could or should be doing.

Schools spend millions upon millions for standardized achievement and other tests. But they do not use the results sufficiently for blowing the whistle -- that students are falling below standards, and that everything must be done to get them back on.

What should the standards be? For the past decade, schools have used minimal competency tests but these are not fully helpful since the scores depend on the amount of remedial funds available and only the poorest achievers are selected for help. These could just as easily have been found by their teachers.

We need to agree on minimal standards at every age and grade, the minimal standards not to retain children but standards for providing remediation and special help as early and as long as needed.

Also needed are regular reviews of each child's literacy development and provision for help as needed. And when schools are found to produce too many individuals who need extra help, we must examine the reading programs -- from preschool to 12th grade and from the teaching of reading to the uses made of reading.

To Conclude

I have proposed some questions with regard to needed policy on effecting optimal matches between literacy needs of a high tech society and the literacy attainment of individuals. Both are viewed as developmental and can be placed on similar quantitative scales as well as qualitative stages.

I have painted a picture of considerable gaps between literacy needs

and literacy attainment for all, and particularly for certain groups of our population — the poor, the minorities, the bi-lingual. The policy implications suggest greater efforts in education generally in setting standards, and in developing improved programs and additional remediation.

As a final note, I should like to say that on the chance that I will be faulted in suggesting standards that are too high, I checked with Wechsler's (1944) estimates on the distribution of intelligence among children and adults and found that about 75 per cent are considered of normal intelligence -- 50 per cent of average ability, 16.1 per cent of high average, 6.7 superior and 2.2 very superior. If so, how should we view the NAEP findings that only about 40 per cent of all 17 year olds and young adults, and about 20 per cent of minority students, can read on a high school level? Also, how can we explain the large numbers admitted to community and four-year colleges who can read only on an 8th grade level or lower? If we accept the fact that they are all of normal intelligence, and that cognition is the ultimate limit of literacy, why the gap? This is a problem for social and educational policy.

TABLE 1

What Is Learned at Six Reading Stages

Stage Level and Designation	Reading Grade Levels	Essential Learnings
Stage 0 Pre-Reading	Below 1st grade reading level	Introduction to nature and function of print. Reads common signs and labels, learns letters and some sounds. Can write one's name.
Stage 1 Decoding	Reading grade level 1 and beginning 2	Letter-sound correspondences, knowledge of the alphabetic principle and skill in its use. Identifies about 1,000 of the commonest words in the language. Can read very simple texts.
Stage 2 Fluency	Reading grade levels 2 to 3	Integrates knowledge and skills acquired in Stages 0 and 1. Relies on context and meaning as well as on decoding (phonics) for identifying new words. Reads with greater fluency. By the end of Stage 2, can recognize about 3,000 familiar words and derivatives.
Stage 3 Learning the New	Reading grade levels 4 to 8	Can use reading as a tool for "learning the new" — information, ideas, attitudes and values. Growth in background knowledge, meaning vocabulary, and cognitive abilities.
Stage 4 Multiple Viewpoints	High school-- Reading grade levels 9 to 12	Ability to read widely a broad range of complex materials -- expository and narrative -- from a variety of viewpoints and at a variety of levels of comprehension — inferential, critical as well as literal.
Stage 5 Construction and Reconstruction	College and beyond	Reading for one's own needs and purposes (professional, personal, civic) to integrate one's knowledge with that of others, and to create new knowledge.

Adapted from: Chall, Jeanne S. Stages of Reading Development. New York: McGraw-Hill, 1983.

TABLE 2

Readability Levels of Selected "American Scriptures"

	Holistic Assessment of Texts	New Dale-Chall Formula	Fry Formula
Declaration of Independence	13-15	13-15	
Constitution of the U.S.	13-15	13-15	
(The Preamble alone)	13-15	16+	
Lincoln's Gettysburgh Address			9

FIGURE 1

The Constitution of the United States

Readability Samples

Sample 1:

[Preamble] We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

Sample 2:

Section 3 [Article I] The Senate of the United States shall be composed of two Senators from each State, chosen by the Legislature thereof, for six Years: and each Senator shall have one Vote.

Immediately after they shall be assembled in Consequence of the first Election, they shall be divided as equally as may be into three Classes. The Seats of the Senators of the first Class shall be vacated at the Expiration of the second Year, of the second Class at the Expiration of the fourth Year, and of the third Class at the Expiration of the sixth Year, so that one third // may be chosen every Second Year:

FIGURE 2

The Constitution of the United States

Readability Samples

Sample 1
Preamble

WORD	GRADE	%
perfect	8	78
union	12	68
establish (2)	6	68
justice	6	82
insure	6	71
domestic	8	68
tranquility	8	75
provide	4	70
common	6	72
defence	6	67
welfare	8	72
secure	8	74
posterity	10	73
ordain	10	80
Constitution	6	87

% words grade 4:	6%
% words grade 6:	44%
% words grade 8:	31%
% words grade 10:	13%
% words grade 12:	6%

Sample 2

WORD	GRADE	%
Senate	6	77
composed	6	81
senators (3)	6	75
legislature	6	67
thereof	6	69
immediately	6	78
assembled	6	88
consequence	8	81
equally	4	87
vacated	6	73
expiration (3)	13	78

% words grade 4:	8%
% words grade 6:	*69%
% words grade 8:	8%
% words grade 13:	15%

From: Dale, Edgar and O'Rourke, Joseph. The Living Word Vocabulary. Chicago: World Book-Childcraft International, 1981.

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Response to Jeanne Chall,

"Policy Implications of Literacy Definitions"

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Symposium: Toward Defining Literacy

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Professor Chall is, of course, a noted authority on reading, and her work has had a great impact on the teaching of reading over the past three decades. She argues in her position paper that our policies help define literacy and that, for her, the most important policy is the provision of schools. We have set up a universal, free public school system and then defined literacy as a certain grade-level reading achievement. She also argues that literacy ability lies on a single continuum and that grade-level equivalents are reasonable expressions of points on the continuum. The standard of adequate literacy has risen as more and more children got more and more education. Today, we expect children to continue in school until grade twelve, and many adult reading materials are written at that level, so, Professor Chall argues, we should define adequate literacy as a twelfth-grade reading ability. She supports that argument with evidence that people need twelfth-grade reading skills in several different contexts, such as work and citizenship, and she argues for school policies that will bring as many children as possible to this level, with more testing and more remediation at each level.

Professor Chall argues both that literacy policies affect literacy definitions and that definitions affect policy. I'm not sure which direction is predominant, or whether it matters. Does policy flow from definitions of literacy we arrive at through other means, or do we seek definitions that will serve our policy convictions? Some of both, I imagine. Nonetheless, new definitions, concepts, and arguments about the nature of literacy can arise from theoretical, empirical, or philosophical

sources, and can in turn have consequences for policy, so definitions per se are worth contemplating and debating, as we are doing today.

Professor Chall sees recent literacy surveys as "a source of growing consensus" about the definition and measurement of literacy (p. 6). I don't see the consensus, at least not yet, so I'm going to emphasize some competing concepts. Although we can state them as outright contrasts, they are actually differences of emphasis. Different people emphasize different aspects of literacy in defining it and setting out policies for improving people's literacy. However, the differences of emphasis are not trivial. They have important policy consequences. The fact that I may allow your main emphasis as a caveat in my definition, and vice versa, does not change the fact that we draw starkly different policy conclusions from our contrasting definitions.

The first contrast one finds among definitions of literacy is between those who define literacy as a dichotomous variable and those who define it as a range of skills. People who think of literacy as an either-or proposition tend to talk about problems of the illiterate and argue about how many people are illiterate. People who think of literacy as a range of skills talk about problems of literacy, and include almost everyone but themselves in the potential problem group. The dichotomizers define a cut-off point and then talk about everyone below the cut-off point as illiterate--whether it is people who cannot decode the simplest words in print (perhaps 5 percent of the population) or people who cannot read at the eighth-grade level (perhaps 20 to 30 percent of the population), or those who cannot get a high score on the Texas Adult Performance Level test (35 to 50 percent of the population). Lumping people as illiterates is useful for

dramatic purposes in the political arena, but it doesn't match reality very well. Jonathan Kozol's book is the best example of this tactic and its problems.[1] His "illiterate America" included people who were utterly illiterate along with those who read parts of a newspaper every day, can handle the reading required on their jobs, and do not consider themselves illiterate. A majority of his "illiterate" Americans read at a level between fifth and eighth grade and would probably not seek to improve their literacy, especially from a program that defined its clients as illiterate. Workers in adult education know this, but they rely on clarion calls like Kozol's to dramatize the literacy issue, to get public attention and elicit better funding. So when Irwin Kirsch began saying, on NAEP's behalf, that the big problem was literacy, not illiteracy, some of them got nervous, fearing that NAEP's message would encourage people to focus on school training and neglect adult literacy programs. It need not be so, of course, but it illustrates the important implications for policy of how you define the problem. One of the prominent ikons of the literacy movement of the past few years--a negative image seen on a common TV public service spot--is a man, frustrated and ashamed, stuttering and unable to sound out the words of a children's story to his little girl. This sort of image dominates the campaign to fund adult literacy programs. But it should not be imagined that the man's agony is shared by all the people included in estimates of so-called illiteracy that range above ten percent of the population. One of the biggest problems in reconciling research on literacy with publicity about illiteracy is how to face middle-range literacy problems and still keep the attention of the public.

My second contrast is between those who argue that literacy is adequately described as being a single continuum, and those who emphasize that it is a collection of discrete, definable skills. The policy implications of these two concepts are perhaps more subtle than with the previous contrast. Those who think that literacy abilities lie along a single continuum tend to emphasize school-based literacy and grade-level equivalents. Conversely, the concept of distinct literacy skills encourages one to explore non-school uses of literacy and to incorporate in school training a detailed analysis of different reading skills needed by adults. Shirley Heath's assessment of the functions of literacy in everyday community life encouraged people to think of literacy skills outside the linear, hierarchical framework that shapes school instruction.[2] The NAEP young adult literacy assessment analyzed the skills necessary to read diverse adult prose pieces and identified three major areas of literacy ability: prose comprehension, document literacy, and quantitative literacy. They then set out to specify more particular skills within these areas. Prose comprehension, for example, included such skills as finding information, interpreting information, and identifying themes or organizing principles, while document literacy depended upon abilities to match several features and handle distracting information.[3] Emphasizing the diversity of literacy abilities, then, leads to a wider analysis and new instructional possibilities.

The third contrast among definitions of literacy involves the distinction between skills and content, which has become quite exaggerated, and even policitized, in recent discussions. The background was there, I suppose, in the "back to basics" movement and the frustration of many people

in the 1980's with the prominent attention to cultural pluralism in the 1970's. Some believed that the schools had retreated from cultural tradition and were emphasizing not only cultural but moral relativism. Cognitive psychologists came to emphasize the importance of knowledge in the development of skills within different domains, and now E. D. Hirsch has put it all together by defining true functioning literacy as a matter of content, not skills.[4] He argues that in the 1960's and 70's teachers defined literacy as content-free skills and shaped the curriculum accordingly. Now the pendulum must swing back, Hirsch says, toward a corpus of common literary, historical and scientific allusions needed to understand adult prose effectively in our society. At its best this is an argument between, on the one hand, those who emphasize the wisdom of received tradition and the importance of common reference points for a democratic society, and, on the other hand, those who emphasize the cultural diversity of our society and the importance of critical thinking and reading skills for a democratic society. At its worst, this debate is symbolized by permissive liberal teachers who have slid into a flabby curriculum on one side, and narrow conservative reformers who want people to memorize fragmented facts on the other. Definitions of literacy can incorporate both skills and content, of course, but a heavy emphasis on one or the other has enormous policy implications.

Other contrasts could be drawn from existing definitions of literacy, and they presumably would also have contrasting policy implications. But I have expended my allowed space.

Hopefully, these three contrasts have provided some food for thought. Not only are there reciprocal causal relationships between definitions of

literacy and policies about literacy, but behind these different definitions and policies are differing visions of what kind of society we are and what kind of society we should aspire to be.

ENDNOTES

1. Jonathan Kozol, Illiterate America (Garden City, New York, Doubleday, 1985).
2. Shirley Brice Heath, Ways With Words: Language, Life and Work in Communities and Classrooms (Cambridge, Cambridge University Press, 1983).
3. Irwin Kirsch and Ann Jungeblut, Literacy: Profiles of America's Young Adults (Princeton, Educational Testing Service, 1986).
4. E. D. Hirsch, Cultural Literacy: What Every American Needs to Know (Boston: Houghton Mifflin, 1987).